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The HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

APRIL 1935

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HYGEIA•

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Published by the American Medical Association
Edited by Morris Fishbein, M.D.

Volume 13
Number 4

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Plans for Economic Security

WE HEAR much these days of plans for economic security, sometimes called plans for social security. The fundamental needs of life are food, fuel, clothing, housing and care in times of illness. Most Americans have been able to pay for their basic needs with the incomes from their work; but when work ceases, incomes stop also, and unless the worker has been exceedingly provident, he soon finds himself without funds and he begins to suffer. In an earlier day, when the family meant more than it does now, relatives used to get together to help out those who were in trouble. The father and mother could be reasonably sure that as they grew older the children would look after them.

Nowadays conditions have changed. Family life has been modified by the coming of the kitchenette apartment, the breaking up of the home, the growth of a nation that lives on wheels, and the relative instability of employment. Moreover, medicine has also helped to increase the burden of the unfit. At a time when the average child born in this country could reasonably expect to live to 40 years of age, there were not a tremendous number of the aged on hand to give concern. In the last fifty years, life expectancy at birth has moved to approximately 60 years, which means that vast numbers of people 70, 80 and 90 years of age are now in every community. Moreover, the figures of the investigators show that from 90 to 95 per cent of people, after reaching 65 years of age, are economically dependent and not able to take care of themselves.

In the days when people traveled around in tribes like gypsies and were nomadic in character, the sick and the unfit were left to die by the roadside. Then, as we began to be more civilized, institutions were developed for the mentally defective, the insane, the crippled, the blind, the hard of hearing and all those who today constitute a considerable charge on every community.

THE CARE OF SICKNESS

Then too our lives have been changed in relation to care of sickness. In the days when the old family doctor was the only one concerned with the care of the sick, expenses were not great. However, the coming of the new methods of diagnosis and treatment, the use of new apparatus, the laboratory tests, the x-rays and the machines for giving physical treatments have made necessary the development of institutions in which the sick are given care. Modern medicine costs more, but of course it is worth more!

Before 1900, there were less than 1,000 hospitals. About 300 nurses graduated annually. Now there are almost 7,000 hospitals, and 22,500 nurses graduate annually. Before 1900, medical care was largely left to the doctors, with a few helpers in the drug stores; the only real specialty was surgery. Now there are more than 20 specialties in the practice of medicine. In addition to 150,000 doctors, about 1,100,000 other people give their full time to the care of the sick. These include pharmacists, nurses, practical nurses, cooks, dietitians, record clerks, orderlies, ambulance drivers, social service workers, hospital radio technicians, hospital librarians and similar employees. There are about 2,000,000 beds available in the institutions of the United States; about 1,300,000 of these are for the care of the acutely sick, the others being devoted to patients with mental diseases or tuberculosis and to military purposes. Thus for every person acutely sick in a hospital there is one full time employee engaged in medical work. The labor cost is an important element in hospital work.

Before 1900, if a child were sick or if the father became ill, he was usually taken care of in the home. Nowadays the mother may be employed, and the necessity in serious illness for modern apparatus, the use of the operating room, or the use of the delivery room for obstetrics, makes the hospital advisable if not a necessity. These changes have added considerably to sickness costs.

At the same time, however, there have been new demands on the American pocketbook. Before 1900, there were no motor cars, no motion pictures and no radios, and the bills for cigars, cigarets, candy and cosmetics were much smaller. These new demands on the American purse have made it most difficult for people to save against illness, old age and even against death. For this reason, no doubt, our government has seen fit to begin to develop plans for social and economic security. But even before our government became interested, people were talking about these things because many foreign nations had already undertaken similar procedures. Everybody knows that Bismarck invented a good many of our present systems of insurance when he was trying to meet the challenge of socialism in Germany in 1883.

Then in Great Britain in 1911, Lloyd George introduced similar measures to allay social unrest. These foreign plans have been studied by Ameri-

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can investigators, particularly economists, and they all agree that there is no system developed abroad that would be suitable to the American people. Even Rexford Tugwell in a recent address on the subject said, "Just as it would be the height of folly to accept literally the political institutions which the Marxian Communists found desirable in peasant Russia or those which German and Italian Fascists have applied to western Europeans, so it would be dangerous to assume that the measures of state socialism adapted to postwar England or prewar Germany are necessarily suited to Twentieth Century America."

THE COMMITTEE ON ECONOMIC SECURITY

President Roosevelt just before departing on his vacation in 1934 announced his intention, following his return, to propose legislation for greater economic security for the people of the United States. In order to aid him in the development of these plans a Committee on Economic Security was established, including Frances Perkins, Secretary of Labor; Henry Morgenthau, Secretary of the Treasury; Homer S. Cummings, Attorney-General; Henry A. Wallace, Secretary of Agriculture, and Harry L. Hopkins, Director of Relief.

This committee in turn set up an advisory staff with an executive director, and in this staff there were included some thirteen divisions concerned with the problem of social security with such departments as prevention of unemployment, unemployment insurance, old age annuities, old age relief, maternal welfare, child welfare, care of the handicapped, hospital care, medical service and public health service. A technical director was installed for each of these departments, and it was announced that studies would be made leading eventually to the proposal of legislation which would give greater economic security to the American people.

In connection with each one of the technical advisory staffs an advisory staff of experts or leaders was appointed. For example, in the field of health, Edgar Sydenstricker was made head of the technical advisory staff, and the medical advisory board, consisting of eleven men, was appointed.

After Congress convened, the President on January 4 sent a message indicating his plans for social security. Then on January 17 he sent to Congress a message relative to unemployment insurance, old age pensions, federal aid to dependent children, the support of existing mothers' pensions, appropriations for service for the protection and care of homeless, neglected and crippled children and finally additional aid for the federal, state and local health agencies and for strengthening the federal Public Health Service. At that time the President indicated that he proposed to delay recommendations for so-called health insurance until further studies had been made. With this recommendation of the President came a preliminary report by the Committee on Economic Security.

THE WAGNER-LEWIS BILL

Promptly on the submission of these messages and reports to the Congress of the United States, Senator Wagner of New York submitted to the Senate a bill (No. 1130), which is known as the Wagner Bill for Social Insurance. It covers specifically old age assistance, aid to dependent children, earnings and employment excise taxes. It sets up a social insurance board composed of three persons appointed by the President, to be a part of the Department of Labor. This board is authorized, with the approval of the Secretary of Labor, to appoint and fix compensation of all officers, attorneys and experts needed, without regard to civil service laws. Under this board will come the control of old age insurance, unemployment compensation, accident compensation, health insurance and related subjects. Annuity certificates and taxes of 3 per cent on payrolls are provided as means of raising funds.

Under the heading of maternity and child welfare this bill appropriates $4,000,000 annually to enable the federal government to cooperate with the state agencies of health in extending and strengthening services for the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress. This is to be administered by the Department of Labor. Each state is to get $20,000 annually, and $1,000,000 is to be apportioned among states in proportion to the respective live-birth rates. The Secretary of Labor may apportion $800,000 among states that are unable to match the federal appropriation. Furthermore, the Secretary of Labor may use the remainder to make special demonstrations and conduct research in maternal care. To secure the federal funds the states must submit their plans to the Children's Bureau and obtain approval.

For the care of crippled children the Wagner bill provides $3,000,000 annually, to be handled in much the same way as the funds for maternal and child welfare are to be handled, also subject to approval of the Children's Bureau.

For child welfare services, $1,500,000 annually is allotted; it is also distributed and controlled along the same lines.

Finally, the Wagner bill appropriates $10,000,000 annually to be administered by the Bureau of the Public Health Service. The bureau is to allot $8,000,000 to the states in amounts determined on the basis of the need of each state for such assistance, to develop state health services, including the training of personnel for state and local health work and for the purpose of assisting counties or other political subdivisions of the states in maintaining public health programs. The sum of

$2,000,000 is to be made available annually to the Public Health Service for the further investigations of diseases and problems of sanitation and related matters.

STATE SICKNESS INSURANCE MEASURES

In the meantime, various proponents of changes in the social order had been exceedingly active in developing plans for the promotion of sickness insurance schemes in the individual states. Most active was the group known as the American Association for Social Security, of which the executive secretary, Abraham Epstein, is most widely known. This group prepared a so-called social security bill for health insurance, which proposed to establish a system of compulsory and voluntary state health insurance, including practically all manual workers and their dependents under its compulsory provisions. It also provided that certain other persons might voluntarily avail themselves of the supposed benefits of the act, so that it would include eventually 95 per cent of the entire population of the United States. This bill was immediately promoted in all the individual states, and it is understood that it is to be offered in the individual state legislatures from time to time as they convene throughout the country. In New York the much discussed Byrnes bill is of this type.

In the meantime the technical advisory staff in medicine and the medical advisory board continued their studies. It is no secret that the technical advisory staff, which is not headed by a doctor and which includes mostly economists and social service workers, proposes to assume complete responsibility for the recommendations incorporated in the final report to be made to the Committee on Economic Security, which in turn will offer its report to the President.

OBJECTIONS TO STATE CONTROLLED MEDICINE

Now it must be realized that there are grave objections to many of the provisions of the Wagner-Lewis bill as well as to the whole set-up proposed for the promotion of health and for insurance against sickness. Indeed the medical aspects of this legislation are so important in relation to the lives of the American worker and of his family that the American Medical Association called a special meeting of its House of Delegates recently to consider these matters. The American Medical Association includes 100,000 out of 150,000 doctors licensed to practice medicine in this country. Its House of Delegates is elected by members of the Association in a truly democratic plan, whereby the doctors in each county develop a county medical society, the members of the county medical societies elect delegates to the state medical societies, and these in turn elect delegates to the American Medical Association.

The primary considerations of these doctors are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care and the provision of adequate medical service to all the people. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world may be taken as evidence of the extent to which American doctors have met their obligations to the people.

The doctors feel that any form of compulsory sickness insurance is unamerican and that it is bound to disturb seriously the quality of medical care. The medical profession has never required compulsion but has always volunteered its service in times of need. The medical profession recognizes the need for federal aid in conditions of emergency but deprecates any provisions whereby federal subsidies are given to the individual states with the understanding that the manner in which they use the money will have to be approved by the bureaucracy in Washington, and it is opposed to the control of medical affairs by people who are not medically trained.

For this reason it has always felt that the Children's Bureau which is now in the Department of Labor ought really to be under the United States Public Health Service. Nobody can question the desirability of adequate medical service for crippled children and for the preservation of child and maternal health, but there may be real detriment to such service when improperly administered.

Among other things, the Wagner bill puts all these matters under the supervision of a social insurance board without specifying the character of the personnel of its board, and without even requiring selection of the employees under the civil service rules.

EVOLUTION OF MEDICAL PRACTICE

The American Medical Association recognizes the importance of developing changes in the nature of the practice of medicine so as to provide a high quality of medical service for all the people. It knows, however, that there is no one plan which is a cure-all for all the social ills that beset mankind, any more than there is a single panacea that can be poured out of a bottle for all the physical ills of mankind.

There are now more than 150 plans undergoing study and trial in various communities in the United States. These plans are being developed by county medical societies with a view to safeguarding all the important factors in medical practice that mean so much to the patient's health. They include the free choice of a doctor by the patient, free choice of hospital by the patient, separate provision for payment for the doctor's services and for the hospital service whether by prepayment plans, installment plans or so-called voluntary insurance. The American Medical Association encourages local medical societies to establish plans for the provision of adequate medical service for all the people. It recognizes that these plans must be adjusted to the economic conditions that prevail, and it recognizes also the necessity in many instances for some type of budgeting to meet the costs of illness.

With the new and numerous demands on the American pocketbook, people have forgotten the necessity of saving against sickness. They have learned to save for motor cars, for extended vacations, for Christmas funds and for the purchase of all sorts of modern gadgets and accessories. They must learn also that sickness may occur in any family and that it is necessary to be prepared for it.

Guaranteed—BUT HOW?

By F. W. NORRIS

GOLD LETTER BONDS have lately taught many the truth of the old saying, "All is not gold that glitters." Guarantees, gilded and decorated like these bonds, commonly are found in sales literature of business concerns selling drugs and devices, as alleged cures for disease, directly to the public. Like pyrites, the "fool's gold" which so often has enticed prospectors from their quest for gold, these "guarantee bonds" with their glittering promises have frequently lured uninitiated seekers for cures into useless waste of time, money and effort and into needless dangers to both health and life.

With years of experience involving the purchase and analysis of hundreds of treatments and careful examination of representations and promises made therefor, I have found quite often that these guarantees do not provide the purchaser with the pretended absolute insurance against loss of money or risks to health and life.

Inspection of many complaints from those who have requested and failed to secure refund indicates that others need to learn the lesson; that "guarantees" cannot always be taken at face or par value. Not uncommonly the phraseology of these guarantee bonds has been worded carefully by shrewd lawyers trained to keep within the letter of the law while practically disregarding its spirit. The seller quite often is the only insured party, for the purchaser's money, no doubt, assures the promoter the "perfect satisfaction" mentioned.

The court has spoken thus on the question of guarantees: In the case of Harris vs. Rosenberger (145 Fed. 339, C.C.A. 8th Circuit, May 9, 1906), two concerns were selling inferior whisky under representations that it was 9 and 14 years old and of very fine quality and that it was produced in the promoters' own distillery. Judge Van DeVanter, then of the Circuit Court of Appeals for the Eighth Circuit, stated:

> The falsity of the representations and the appellee's knowledge of their falsity being established, as they were, it was *not* an inadmissible view that the promise to refund the purchase price, if the goods were not satisfactory, and were returned, was cleverly devised to give apparent color and support to the representations. True, it appeared that, in a few exceptional instances where customers discovered and resented the deceit which was practiced upon them, the appellee refunded the purchase price in fulfillment of his promise, but it cannot be said that this necessarily or conclusively disproved any intent to defraud, particularly when it was not questioned that in all other instances he retained the money obtained by means of the deceit which he was practicing.

Among the many methods by which apparently honest refund guarantees are virtually nullified and made void are the following:

LIKE PYRITES, THE "FOOL'S GOLD" WHICH SO OFTEN HAS ENTICED PROSPECTORS FROM THE QUEST FOR GOLD, THESE "GUARANTEE BONDS" WITH THEIR GLITTERING PROMISES HAVE FREQUENTLY LURED THE UNINITIATED SEEKERS FOR CURES INTO USELESS WASTE OF TIME, MONEY AND EFFORT AND INTO NEEDLESS DANGERS TO HEALTH AND LIFE.

One of the more common tricks is to promise a certain cure within a specified time, which is purposely made much more remote than the time of the short "free" trial period permitted. For instance, although a cure is promised only after weeks or months of medication, the patient is given but a few days in which to try out the drugs or devices. The promoter fully realizes that no one will be cured within the short trial period allotted; but the patients, hoping for the promised cures, are thus induced to use the treatment beyond the free trial limit and therefore are barred from securing refund when they later become dissatisfied and request it.

Sedative drugs may so act to quiet pain and other symptoms during a short trial period as to mislead the patient into expectation that a real cure is "just around the corner"; and thus medication may be continued although the diseased condition, despite relief from pain, may be growing worse all the time.

ANOTHER favorite trick is the setting of a rather protracted time limit for the trial period, which is often of many months' duration. These long treatments demand so many minutes and even hours of tedious and painstaking effort daily that few patients ever fulfil the requirements; hence they have no chance to get their money back. When the results desired do not occur with the first or second order, patients frequently decide to lose the amounts already spent rather than to make any further financial outlays.

No one realizes better than the promoters in such cases that the diseases and symptoms vary so greatly from time to time that during the lengthy trial treatment a great many sufferers, whether or not they are taking any treatment whatever, can be expected to experience some actual or supposed relief, which, by the stated terms of the refund contract, acts to debar requests for refund.

In seasonal diseases, such as hay fever, the test period designated may be so long that the symptoms will have subsided naturally without any treatment before the trial is over. Only at the next regular seasonal appearance of the disease, much too late to secure refund, does the patient find out that he is not cured.

Another element, usually involved in treatments using long period guarantees, is the requirement that medication be continuous if refund is to be granted. The patient's failure to order each of the various monthly or semimonthly treatments far enough ahead so as to have the new treatment on hand before the last is used up voids the contract. Sometimes the drugs are so nauseating and otherwise harmful that it is an exceedingly difficult matter to take the treatment, as required by terms of the guarantee, without interruption.

In both long and short period guarantees it is specified usually that refunds must be requested within a few days after the trial period has ended. The sellers well understand that procrastination is likely to cause many of their dissatisfied purchasers to postpone making requests for refund until this short specified limit has expired. Many who really feel that they are entitled to have a refund, through natural disinclination to write letters or perhaps through believing that since the medicine has proved worthless, guarantee might likewise prove of no value, fail even to ask for refund.

Another phase of some schemes is the necessity for returning a certain specified portion of tablets or pills by a certain specified date. In addition to writing a letter, such patients must go to the trouble of preparing, mailing and paying postage on a parcel post package; and all these requirements must be met within an extremely short time. Sometimes patients are told that they may, as needed, use extra tablets above the regular specified dose; but at the end of the refund period set they may find that by thus exceeding the usual dose as directed, they do not then have left the specified number of tablets necessary to obtain refund.

In certain cases, affidavits requiring notary fees are demanded before refund is granted, although before the sale no mention is made of that requirement. Other companies have offered another and supposedly better treatment, further supplies of the same treatment and even entirely different articles, instead of returning money promptly and without question as promised.

Some concerns require a statement from a doctor, and others demand some sort of laboratory test as proof that patients have not been cured. Such tests and doctors' examinations frequently cost as much or more than the amount of the refund sought.

Companies selling a number of articles sometimes guarantee only one although the printed guarantee may be so constantly emphasized without limitations that the readers will believe that every article sold by the company is covered by the same guarantee.

A COMMON form of deception is in the use of several different forms of guarantee scattered throughout the literature, one being more stringent than the others. Advertisements may make definite promises, which are changed in literature received later. The forms of guarantee often vary greatly in the literature received before sale and that sent out after money has been spent. While promises made throughout the literature may lead to expectation of sure, complete and permanent cures, the refund bond itself may be much more limited, specifying that the patient who desires refund must affirm that he has secured "not even the slightest benefit" or "no benefit whatever."

Some promoters place, in other parts of the literature, statements which in part offset or contradict the expressed promises made in the

SOMETIMES THE DRUGS ARE SO NAUSEATING THAT IT IS EXTREMELY DIFFICULT TO TAKE THE TREATMENT, AS REQUIRED BY THE TERMS OF THE GUARANTEE, WITHOUT ANY INTERRUPTION.
dlwideman

refund bond, or guarantee, itself. Guarantees may offer complete satisfaction to all, whereas elsewhere in small print and sometimes even in large print, certain exceptions are noted. For instance, promise of cure may be made to those with "functional" diseases, exception being noted in cases of those whose diseases are "organic." Patients without a knowledge of what these terms really comprehend are not in a position to decide whether they have an organic or a functional disease.

One patient, after using the treatment for one month, asked for his money only to receive the following reply:

> In accordance with our guarantee which accompanies our first order of medicine, you are entitled to a refund if you return the empty bottles to us *within the time limit* together with the notation that you have received no results whatsoever. . . .
>
> Inasmuch as you *did not report* within the *limited time specified,* we do not feel that you are entitled to a refund of your money. . . .
>
> However, if you can show us *one instance,* where we claim to *cure* in *six* days or six years, you will be doing us a great favor.

This purchaser had failed to note that the limit of trial period, definitely stated in the guarantee itself, was for six days only. While therapeutic results, in terms synonymous with cure, were repeatedly promised throughout the literature, the guarantee involved specifically only the return of money under carefully specified limitations.

OTHER purchasers not only are refused refund which they request but are insulted for their presumption in trying to "steal" the self termed honest promoter's money. Those who insist on the return of their money and threaten to report the matter to responsible governmental agencies may in turn be threatened with suit or penalty for "blackmail" or "extortion."

One of the greatest elements of deception is found in the general and unspecified use of the word "guaranteed." The inference gained from the usual careless reading of such representations leads to the expectation of refund of purchase price, if the promised satisfaction does not result, whereas in reality the terms of the guarantee refer to things other than money. For example, materials may be guaranteed against defect, or they may be guaranteed to reach the purchaser in proper shape and condition. A mere exchange of articles in case of misfit may be the limit of the actual guarantee. In some cases it has been proved impossible to obtain satisfaction no matter how many exchanges were made.

SOME promoters, pretending to be greatly interested in the patient, send out a guaranteed treatment and shortly thereafter send a symptom blank or form to be filled out by the patient, reporting his supposed condition. When a statement of any benefit or supposed benefit whatever is made on this blank by the patient, this is then used by the promoter as a reason for declining to make a refund, if at the end of the trial period the thoroughly dissatisfied patient asks for the return of his money.

One company whose alleged cure for rheumatism had by actual count killed or made invalids of more than a score offered to make a refund following the use of the first treatment; but purchasers on opening the package then learned for the first time that the medicine might be dangerous. However, in order to secure return of money it was necessary under the terms of the contract that they use this admittedly dangerous treatment over a period of a month. Even then gravity of the dangers was glossed over, and the patients were not told that there was a possibility of invalidism or death.

Another method of defrauding is the one in which the promoter sets up his own arbitrary standards, tests and regulations and makes the refund contingent on these regulations.

One frequent example of this is found in "guaranteed" obesity treatments which are advertised as requiring no "starvation" diets. After purchasing the drugs the patient frequently finds that in order to obtain a refund he must follow a rather strict or rigid dietary over periods of weeks and even months. The use of such diets alone might bring some reduction in weight; hence the patient has no means of gaging the effectiveness of the medicine itself.

Tests specified by the promoter may also mislead the patient into thinking that the guaranteed results are being obtained. Medicines which are capable always of making the feces black or others which impart various colors to the urine are sold with the understanding that when such conditions arise they are to be considered as proof of the efficacy of the treatment. One treatment for rheumatism which frequently caused a skin eruption was sold with the understanding that this rash was certain proof that the poison, which was allegedly uric acid, was coming out of the system.

Guarantees which deal with provisions other than refunds to the dissatisfied are numerous and may be just as deceptive and misleading as the refund guarantees.

In many instances, guarantees involve either the alleged authenticity of testimonial letters used or the honesty of those who wrote these letters of alleged effects secured. The lay patients who wrote these testimonials may be entirely honest in their beliefs, yet that does not guarantee to prospective purchasers that they will secure the same or similar results. Patients may report that they have been cured of gallstones, but their mere belief is entirely worthless, if, as is usually the case, no x-ray tests have been taken to prove the existence of stones before treatment and their removal thereafter.

Guarantees from chemists or chemical laboratories as to purity, quantity and quality of drug ingredients are not competent proof of the truthfulness of promises of curing disease, since chemists and pharmacists are not required to have a physician's training.

Guarantees of alleged worth given by institutions or so-called expositions with imposing names are not uncommonly used to build up a pseudoscientific basis for claims. Investigations of these guarantees with their gold seals, medals and blue ribbons often have proved that the awarding exposition, if held at all, was not scientific or medical in nature. One device, supposed to be worn at night for the purpose of reshaping the adult nose, was backed by such guarantees and gold medals from an exposition which was finally exposed as a "one-horse" show held by a patent attorney merely for the purpose of exhibiting articles which he alone had patented.

Although the government may grant patent or trade mark rights for a device or combination of drugs, it does not by doing so attempt to approve or disapprove the claims made relative to the supposed value or worth of the patented articles. Patents have been granted on many entirely worthless devices, such as those supposed to develop perpetual motion, and on an artificial cat with green glass eyes, alleged to scare the mice away.

Some promoters, realizing that a large proportion of their patients will ask for refunds, purposely make the price of their preparations so high that despite the number of refunds granted, a profit is still probable. In one such instance a charge of from $10 to $20 was made for "deafness cure" treatments costing from 10 to 20 cents. The profit made on merely one of this promoter's patients who thought he was getting improvement in hearing or one who failed to fulfil the many specifications incident to obtaining refund would offset many dozens of cases in which refund was requested and made.

Another instance of like nature was found in the sale of drugs as an alleged means of determining the sex of unborn infants. Since, on the average, approximately the same number of girls and boys are born, the promoter's guess was bound to be right in a considerable percentage of cases.

Some concerns guarantee correct diagnoses without physical examination or presume by means of tests made of specimens sent direct to the promoter to advise their patients concerning the progress of their cases. It was proved that two promoters, now serving federal sentences of eighteen months each in the penitentiary, sent sputum from well persons to the laboratory in order to report a negative test for tuberculosis and, without having them examined, threw aside the specimens of sputum obtained from the patients.

Another promoter, who guaranteed a correct diagnosis of disease by the mere examination of the patient's handwriting, was found to be blind.

Other guarantees bear approval and statements of alleged worth from so-called noted physicians. Frequently these physicians are really notorious instead of noted. Statements of reputable specialists may be partially quoted or may be misquoted, so that the impression given differs radically from the one that the doctor meant to convey.

Although part truths and veiled deceit are becoming more common, gross unmitigated falsehood still prevails in many cases. A combination of honey, butter and egg yolk was sold as a guaranteed cure for cataract, cross eye and all other eye diseases. A combination of zinc sulphate and digitalis was sold as a certain cure

and preventive for cancer and all other diseases and also as a certain means of prolonging life. A turpentine liniment was represented as a certain cure for tuberculosis, cancer, syphilis and all germ diseases.

Investigation has frequently shown that those engaged in the sale of alleged cures for tuberculosis, baldness, obesity, crooked noses and cancer are suffering from the same troubles that they pretend to treat.

Two promoters now are serving sentences of two and three years in federal prisons, but before they were imprisoned they were able to secure thousands of dollars from the public for treatments absolutely guaranteed not only to cure all manner of incurable diseases but also to bring back a man's lost wife or to secure for him a fine position, such as the presidency of a railroad. One of these promoters sold a guaranteed cure for a fictitious disease designated as "piazza." The value of these guarantees was proved to be on the same plane with the character of these promoters, who obviously were in business only for the purpose of getting money. Actually it matters little to the one who has been cheated or injured whether the promoter had good or bad intentions.

Recently a promoter visited the drug control unit of the federal Food and Drug Administration, and there he presented a drug preparation which he contemplated selling. He then learned that his combination would be liable to cause death in many cases; so its sale was never begun. However, others who are just as ignorant may without any legal restriction or without scientific advice begin the sale of various drug preparations or devices which are not only useless but actually harmful and even deadly.

In a country whose states require licensure of doctors, pharmacists, barbers, dairymen and many others concerned with food, drugs and public health, it is a travesty that criminals and others with no scientific training or advice are allowed to prepare and sell drug preparations and devices directly to patients. Many of these drugs are "guaranteed" cures for cancer, tuberculosis, syphilis and many other serious diseases. Promoters continue these practices, sometimes for years, until governmental regulatory bodies can discover them and prove, through steps which are necessarily time consuming, that representations made are both false and fraudulent.

While generally the falsity of claims made in such cases is not difficult to prove, the government may find much greater difficulty in securing evidence which shows that the seller deliberately made use of these false claims intending thereby to deceive and defraud.

Forecast for the May Hygeia

Which Will Be Dedicated to Mothers and Children

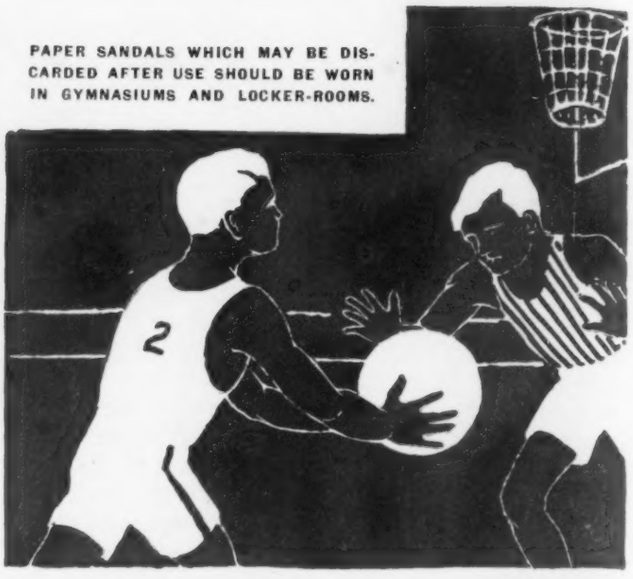
April 27-May 4: "Youth takes the helm" during Youth Week, which is dedicated to a better understanding of the problems confronting boys and girls. "We are so liable to treat children as though they were a species different from ourselves, forgetting that they will soon be striding along beside us," writes *Sophia Yarnall* in "Chosen Companions," another of her constructive articles which are so definitely helpful for mothers of growing children. "My desire," she continues, "is always to short-cut them to their destination as much as possible, and I know of no better way than by allowing them to act as individuals from their earliest days." . . . In "Your Child's Face and Future," *Dr. Jacques W. Maliniak* describes wise precautionary measures in infancy and childhood which go far in preventing facial deformity, correcting abnormality and thus permitting the child to face the stringent competitions of life without the handicap of a gross disfigurement.

May 1: May Day introduces the twelfth annual observance of Child Health Day. "One of the proudest moments of the mother's life," writes *Regina J. Woody* in "Nursing Care of the Sick Child," "may well be when her doctor smiles at her and says, 'Well, madam, you have taken such good care of this little patient that you won't be needing me any more. But I do want to tell you that one reason the child got well so soon was because of your splendid nursing.'" The many practicable suggestions given in this article will prove invaluable to those mothers who are almost solely responsible for the care given to their children. . . . In discussing a common ailment of infancy, *Dr. Dennis Kelly* and *Myrtle Meyer Eldred* declare, "Perhaps no ailment of quite the same degree of prevalence is so little understood by the average mother as infantile eczema." This statement introduces a series of articles, entitled "Why the Baby Has Eczema," in which the mysteries of this commonplace rash of babyhood are dispelled.

May 12: Mother's Day marks the beginning of the fifth annual Mother's Day campaign, the slogan of which is "Make Maternity Safe." Maternity cannot be safe without adequate prenatal and postnatal care, such as that outlined by *Dr. Joseph L. Baer* in his article, "Prenatal Care," in which he asks and answers questions of vital importance to the expectant mother and gives advice concerning exercise, clothing, diet, rest and other matters pertaining to her welfare and that of her child.

THE MORE COMMON SKIN

RINGWORM INFECTION IS USUALLY CONTRACTED IN SWIMMING POOLS, GYMNASIUMS AND LOCKER-ROOMS.



PAPER SANDALS WHICH MAY BE DISCARDED AFTER USE SHOULD BE WORN IN GYMNASIUMS AND LOCKER-ROOMS.

THERE are numerous and varied types of skin infections either of bacterial or of plant origin. However, only about ten are seen commonly in the everyday practice of the skin specialist.

At the present time one of the most prevalent skin diseases is ringworm fungus infection, called dermatophytosis by physicians. It is believed that approximately 10 million persons in the United States suffer from this condition. Ringworm is a misnomer. Originally the condition received its name because it appeared in the form of circular lesions on the head and sometimes on the body in children, more rarely in adults. At present, however, ringworm of the feet, commonly called athlete's foot, and of the hands is the form that is seen so frequently. All types of fungus infections are caused by a plant parasite which microscopically resembles yeast growths. Botanically speaking they are related to the green mold which grows on stale bread and to the lichen which grows on the barks of trees.

Ringworm infection is found most often on the feet and particularly in the webs between the toes. It is contracted usually from walking barefoot on the infected floors of gymnasiums, swimming pools and locker-rooms. The first symptom noticed is scaling and itching between the toes, especially between the fourth and fifth. Later an examination may reveal an eczematous eruption consisting of cracking, oozing and the development of small blisters. From the toes it may spread to the rest of the feet and subsequently appear on the hands in the form of an eczema. The eruption may next appear in the groins and arm pits. In adults it is unusual to see this eruption on the face, and rarely does it appear on the scalp. The condition is difficult to treat, and recurrences are common. Mild antiseptic solutions are at times efficacious. Peeling and antiseptic ointments may then be used. X-ray therapy or grenz rays, long ray x-rays, may be employed as an adjuvant to other local treatment and may help to shorten the course of the disease. Needless to say, prophylaxis is an important factor in preventing the spreading of the infection. Paper sandals should be worn in locker-rooms and gymnasiums and discarded after use. Antiseptic lotions should be applied as a preventive measure.

IMPETIGO is a contagious disease of the skin more frequently found in children but also found quite often in adults. The condition, which usually attacks the face, hands and scalp, is characterized by yellow crusted sores. Impetigo may spread through schools, hospital wards and wherever groups of children are congregated. In such instances it may become a serious problem. On the skin it usually begins as a small blister which ruptures, finally forming a yellowish crust. A child so afflicted should be isolated from other children. The treatment consists in washing off the crusts with warm water and soap. An ointment containing an antiseptic is then applied. It is important to remember that the disease is auto-inoculable; that is, transmissible from one part of the body to another. For this reason a mild antiseptic solution should be applied to the parts surrounding the original lesion.

Scabies, or the itch, is a common parasitic disease caused by the itch mite. The female parasite burrows into the skin and lays its eggs.

INFECTIONS

By Joseph Jordan Eller

IMPETIGO MAY SPREAD THROUGH SCHOOLS, HOSPITAL WARDS AND WHEREVER CHILDREN CONGREGATE.

SCABIES IS EXTREMELY INFECTIOUS, AND IT DEVELOPS ON CLOSE CONTACT WITH PERSONS WHO ARE INFECTED.

At night, because of warmth produced by the bedclothes, the mite comes to the surface and causes severe itching over the entire body. The face is usually not attacked. The eruption on the body is produced by the rubbing and scratching of the affected areas. The condition is extremely infectious and develops on close contact with infected individuals or with bedclothes containing the parasite.

The treatment for scabies is a comparatively simple matter but must be carried out in detail. A hot bath is taken, and all bedclothes and nightclothes are changed. A germicidal ointment containing sulphur or balsam of Peru, or both, is applied for four successive nights. The patient wears the same clothing and uses the same bedclothes during this period. On the fifth morning a thorough cleansing bath with a good, pure soap and warm water rids the body of the dead parasites. All clothing and bed sheets should be boiled to rid them of the mite, and clean clothes should be substituted. As a rule only one such course of treatment is necessary.

Pediculosis capitis and pediculosis corporis are terms applied to the invasion of the scalp or skin by lice. The condition in the scalp is found more commonly in children and is communicated in schools and institutions by actual contact and by toilet articles such as brushes. The characteristic nit, or egg, is found as a pearl-like, translucent bead, the size of a pinhead, hanging from the hair. These eggs hatch, and the live lice may be found crawling on the scalp. Pediculus corporis, or the body louse, is usually found in the seams of the clothing or on the surface of the skin of unclean individuals. This condition with its intense itching often causes characteristic scratch marks on the back of the patient. The patient should have a warm bath, with plenty of pure soap. The underclothes, nightclothes and bed sheets should be boiled to kill the parasites. Soothing lotions should then be applied to the skin.

The scalp lice and eggs are more resistant to treatment and need more stringent therapy than in the case of the body louse.

The scalp condition is best treated by thoroughly washing the scalp with plenty of warm water and soap. Then antiseptic solutions of various descriptions may be applied. The nits are freed from the hairs by the application of vinegar, after which the hair should be combed with a fine comb.

Furunculosis is the term that designates boils. They are painful, reddish, inflammatory elevations surrounding the hair follicles. When the boil ruptures, fragments of the core are discharged until the entire mass is exuded. They usually reach full development in about a week and occur most frequently on the neck, face, arms, legs and buttocks.

Many constitutional conditions predispose to the formation of boils. The need of a thorough medical examination is indicated in all cases of recurrent furunculosis. If boils are treated early, they may be aborted by filtered x-ray treatment. Those which do not respond to this therapy may be incised and drained. Recurrent boils, especially in patients who have no systemic disturbance, often respond to vaccine therapy. However, at least sixty injections must be administered in order that the patient may obtain this immunity.

Heart Diseases of Middle Life

THE YEARS from 35 to 55 are among the richest in the span of human life. It is during these decades that we profit by the years of long and arduous training that have preceded. It is a time when the individual, by his productivity, is of great economic value to the community, a time when his responsibilities in bringing up a family are at their greatest peak. All too often his career and his usefulness are abruptly terminated at this time by the development of a disease of the heart. Overnight he may become a permanent liability instead of an asset to his family and to the community. For diseases of the heart are among the chief causes not only of death but also of chronic invalidity in middle life.

Although the prevention of most diseases of the heart is still beyond the bounds of present medical knowledge, much can be done to prolong life and to minimize the effects of the disability. This involves, among other things, a clearer understanding of the nature of diseases of the heart by the layman.

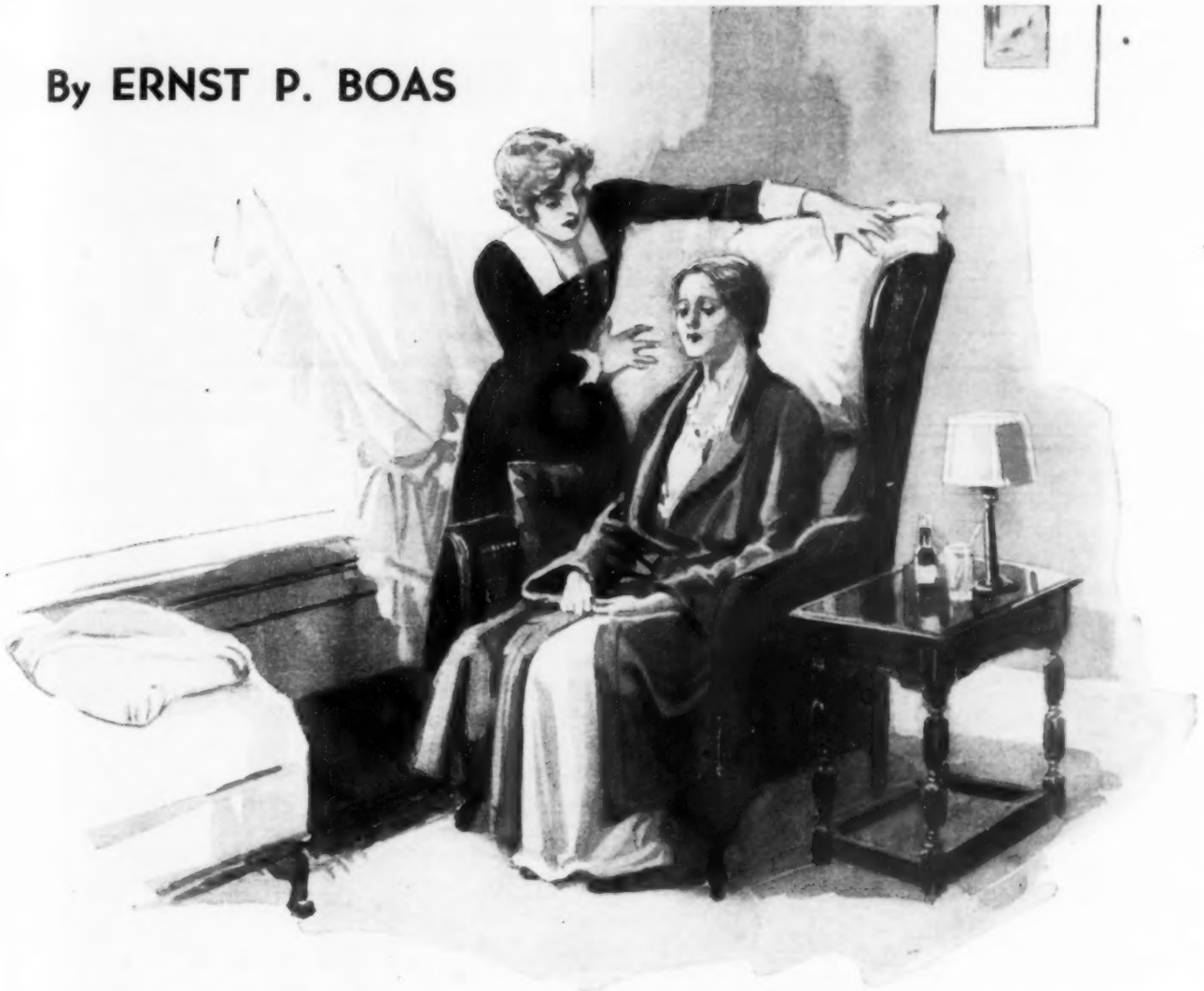
The term "heart disease" is, in reality, incorrect and misleading, for there are many types of heart disease due to different causes, and each is characterized by varying symptoms and manifestations. The physician should speak rather of heart diseases, and in the individual case insist on determining the particular form of heart disease that is present. Only by such accuracy in diagnosis and terminology can he give the patient the treatment best adapted to his case; and, what is of equal importance, only in this way can he hope to increase the knowledge of the nature and natural history of heart diseases to the point where the most effective methods for their control may be ascertained.

THE important types of heart diseases are rheumatic heart disease, due to infection with the germ or virus of rheumatic fever; syphilitic heart disease; heart disease caused by high blood pressure, and heart disease caused by arteriosclerosis, or hardening of the arteries. Each of these forms of heart disease differs from the others in age incidence, course and treatment. The present discussion concerns itself only with heart disease in the period of middle life from the ages of 35 to 55.

Rheumatic heart disease occurs predominantly in childhood and youth. The rheumatic infection causes an inflammation of the cardiac muscle and valves. As a result, even when the infection is over and healing has taken place, the heart is left with a scarred and damaged valvular apparatus, which forces it to work at a mechanical disadvantage. With each beat it must work harder than the normal heart. It endeavors to make up or to compensate for this inefficiency by enlarging. The compensated enlarged heart, with a valvular defect, can maintain the circulation adequately for many years; and many persons live through middle life and even much longer with such a disability. At some time or other, however, the injured heart begins to flag in its efforts, and then serious symptoms arise, and heart failure, or insufficiency of the heart muscle, sets in. One of the most frequent causes for the onset of such failure is a renewed rheumatic infection. It is a peculiar and unfortunate characteristic of rheumatic fever that, once it has attacked a patient, there is a great tendency for recurrence or reactivation of the disease; and with each recurrence the heart is again attacked. In its chronicity and its relapses, rheumatic fever resembles tuberculosis. Another common cause of heart failure in these cases is overexertion, such as that involved either in a sudden severe effort, as dashing to catch a train or lifting a heavy object such as a trunk, or in continuous vigorous physical activity. Once a heart has failed, it will never again be as strong as it was; so it is most important to avoid these factors that are responsible for the first failure.

SYPHILIS causes heart disease by attacking the aorta, the large artery that carries the blood from the heart, as well as the valve that guards the origin of the aorta from the heart. The heart involvement is unusual in that it is discovered, as a rule, many years after the original infection, often as long as twenty years later. That is why it is particularly a disease of middle life. In from 10 to 20 per cent of all individuals who contract syphilis, syphilitic heart disease eventually develops. The occurrence of this form of heart disease could be eliminated by adequate prevention of venereal disease, a feat which is not beyond the realms of human possibility, if the organized community would apply its knowledge of the subject. Syphilitic heart disease could be greatly diminished by complete and thorough treatment of syphilis in its earlier stages, but this end is rarely achieved. Once syphilitic heart disease is discovered and has given rise to symptoms, it is almost too late to accomplish much with treatment. The progress of the disease may be delayed a while, but the outlook is extremely unfavorable, which is an additional reason for exerting every effort to prevent the one form of heart disease that physicians really know how to prevent.

By ERNST P. BOAS



THE YEARS FROM 35 TO 55 SHOULD BE AMONG THE RICHEST IN THE SPAN OF LIFE. YET ALL TOO OFTEN A CAREER IS ABRUPTLY TERMINATED AT THIS TIME BY CARDIAC DISEASE, WHICH IS ONE OF THE CHIEF CAUSES NOT ONLY OF DEATH BUT ALSO OF CHRONIC INVALIDITY IN MIDDLE LIFE.

High blood pressure is one of the commonest disorders of the circulation which affect individuals in middle life. Little is known in regard to its causation. It tends to occur in families; that is, it is common to find high blood pressure in parents and children, in brothers and sisters. In its earlier stages it is probably largely a nervous disorder. The normal blood pressure is regulated by the degree of contraction or tone of the small arteries of the body. When there is too great a contraction of these vessels, the whole blood bed is narrowed, and high blood pressure results. Such a narrowing is often caused by purely nervous factors, for the regulation of the whole circulation is largely determined by the nerves that control the heart and arteries. It is important to recognize that in its earlier stages, in fact, often for many years, high blood pressure is a sign of a disordered nervous regulation rather than of actual disease of the circulatory apparatus. In the course of years, however, the unusual strain to which the heart and arteries are subjected by these high pressures results in organic disease. This makes itself manifest in four structures of the body; namely, the heart, the brain, the arteries and the kidneys. So it is that in the course of time, heart disease, apoplexy, hardening of the arteries, or kidney disease may develop in individuals with high blood pressure. More than 60 per cent of these persons eventually suffer from heart disease. The heart, compelled to pump for years against an abnormally high pressure, is under great and constant strain. At first it enlarges to meet its increased work and so adjusts itself to the unusual burden. After a lapse of years, however, it gradually tires; it waves its signals of distress, and symptoms of heart failure appear.

As a rule this seldom occurs before ten or twenty years have elapsed. The first abnormal elevation of blood pressure is discovered usually in the late thirties or early forties. In the beginning it does not give rise to any symptoms and is brought to light accidentally in the course of a routine examination. The earliest symptoms may be hot flushes, headaches, dizziness, palpi-

tation and nervousness. There is no need for undue apprehension if an elevation of blood pressure is discovered. For years no organic disease is demonstrable. It is the nervous regulation of the circulation that is at fault. Since the high blood pressure is but a manifestation of this unstable regulation, the height of the pressure will vary from day to day, indeed from moment to moment depending on the general condition of the individual. If he is worried and under great strain, his blood pressure will be high; if he is relaxed and at ease, it will be low. The natural variation of blood pressure is so great that rises and falls of from 10 to 30 points a day have no meaning; they do not indicate aggravation or improvement of the underlying condition. It is only when the heart begins to labor under the strain of the high blood pressure that symptoms of heart failure, such as shortness of breath, palpitation or swelling of the feet may appear. In these cases, as in the rheumatic cases, it is physical overexertion that often hastens the unfavorable outcome. Individuals with high blood pressure are often stout, and the excess of fat by mechanically limiting the excursions of the diaphragm as well as by sheer weight adds greatly to the work of the overburdened heart.

HARDENING of the arteries, or arteriosclerosis, is a much abused term. In youth the arteries are elastic and yield to the impact of the pulse and to the stretching induced by alterations in the circulation. Gradually, with the years, this elasticity is lost; the vessels become thickened, and eventually they become the seat of chalky deposits. It is a natural accompaniment of aging and may not give rise to any symptoms. If, however, the process is accelerated, if it occurs at an unusually early age, or if the arteries of some vital organ are severely affected, then symptoms of disease appear. All the arteries in the body do not undergo this change simultaneously and at the same rate. In some individuals it is chiefly the vessels of the extremities that are involved; in others the vessels of the brain or of the kidneys are affected. I shall speak only of what happens when the arteries that supply blood to the heart muscle become diseased and obstructed. Such an occurrence may lead to symptoms of angina pectoris. The patient has pain or a sense of pressure in the middle of the chest, which occurs during exertion or excitement and disappears with rest. At times a blood clot forms suddenly in one of the diseased vessels. This may lead to sudden death or to a serious and painful attack with heart failure. This type of heart disease is not uncommon in individuals between the ages of 40 and 50, and becomes increasingly frequent in the older age groups. Many sudden deaths attributed to acute indigestion, or to a stroke, are actually caused by such a blood clot. The technical name of this condition is coronary thrombosis. But even heart disease caused by hardening of the arteries of the heart offers a much more hopeful outlook than was formerly held. With proper treatment, patients may recover from their acute symptoms and live useful and happy lives for many years.

Although there are many forms of heart disease, the symptoms of all are much alike. This is because in all types, symptoms are induced by failure of the heart, which is the muscular pump of the circulation. The appearance of symptoms always indicates some degree of cardiac weakness. The most important symptoms are shortness of breath,. inability to lie flat, pain in the heart region, palpitation, and swelling of the feet.

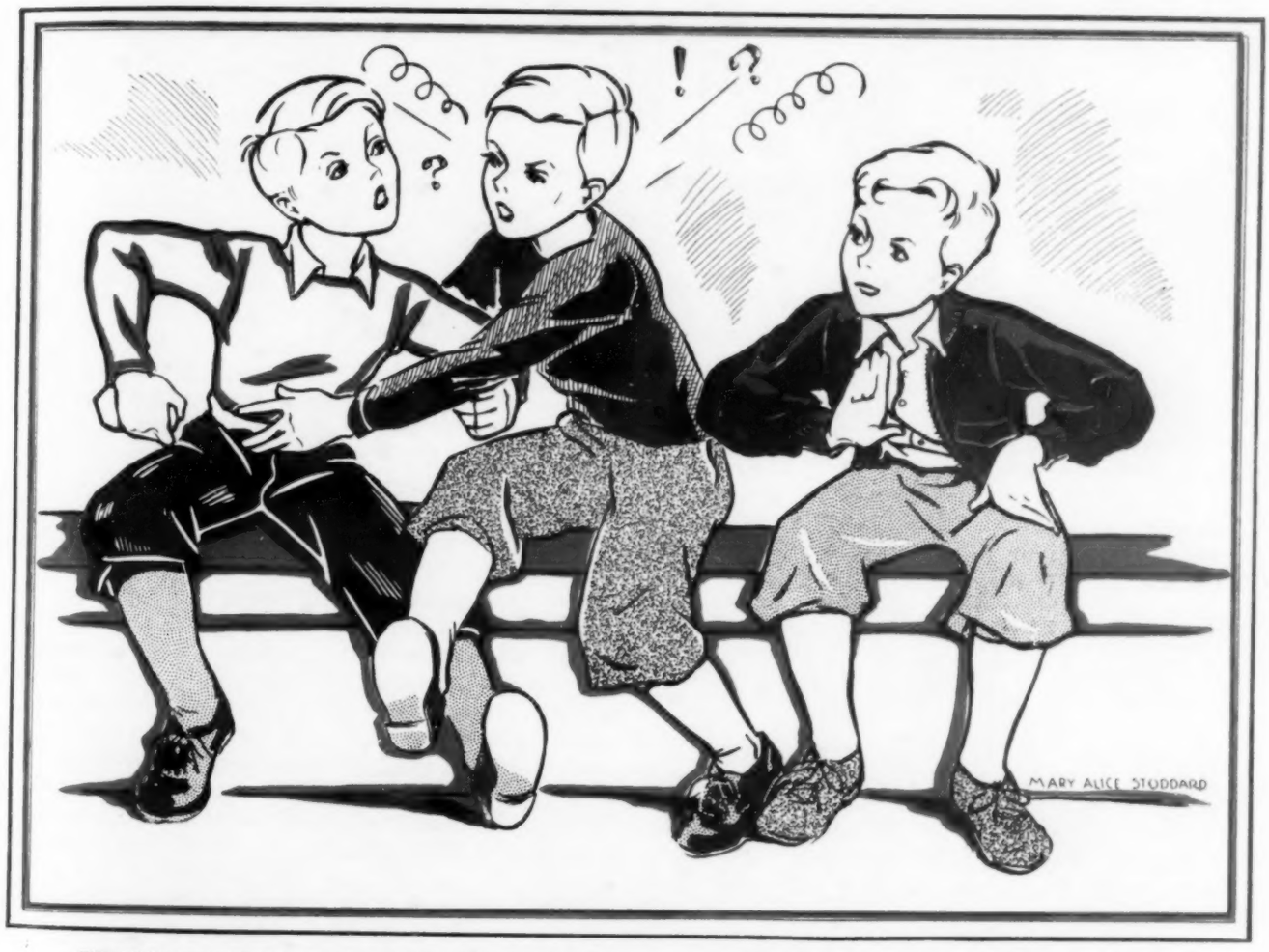
It is important to know that any or all of these complaints may be associated with a purely nervous disorder of the heart. Indeed, many people with normal hearts make invalids of themselves by assuming that one or more of these symptoms indicate the existence of a grave cardiac lesion. Only a trained physician can tell the true from the false symptoms of cardiac disease. It is apparent that any suspicion of the existence of heart disease calls for examination and guidance by the physician. But to wait for the appearance of symptoms before sending for the doctor is to wait until the first signs of weakness of the heart muscle have appeared. The discovery of a heart lesion while the heart is still holding its own, at a time when the patient can learn how to ease its burden and prevent the development of heart failure, calls for periodic health examinations by the physician while the patient is seemingly well. Only so can the earliest signs of disease be discovered.

WHILE a damaged heart cannot be restored to normal, much can be done to maintain its efficiency and to prevent heart failure. In health the heart responds freely to the needs of the body; but when the heart is diseased, the body must learn to adapt its activities to the capacity of the heart. This involves the formulation and adoption of a new philosophy of life by the individual concerned. He must learn to live within the limits set by the condition of his heart. He must learn that within these limits he can lead a rich and fruitful life. Moderation and the cultivation of leisurely habits must be his watchwords. He must use moderation in physical activities, in work and in play, in eating, drinking and smoking, and he must have calm and equanimity in his emotional life. Temperate activity and work usually are better than fretful inactivity and idleness. With these lessons learned, and under the guidance of their physicians, most sufferers from heart disease can look forward to long, happy and useful lives.

"The Other Kids Do It!"

An Article on Imitation in Children

By SOPHIA YARNALL



EVIDENTLY HE HAD PICKED UP HIS NEW MANNER OF EXPRESSION FROM THE BOYS WITH WHOM HE HAD BEEN PLAYING.

"MY DEAR, you'll have to do something about Bobbie's language. I've never heard anything so appalling in my life."

My father, having spent the day with Bobbie at the time the latter had newly discovered both swearing and slang, was beside himself with anxiety. To this well mannered grandparent it seemed a sinister occasion when he heard such rough talk come from the 10 year old lips, and he was particularly distressed at what he mistook to be my lack of interest in the matter. His theory was that Bobbie should be severely punished or at least made to feel the shame of what his language meant. I was no less upset than my father at such lack of taste on Bobbie's part, but I did not wish to give the child the satisfaction of feeling that he had made a deep impression on me.

It was quite evident that he had picked up his new manner of expression from the boys with whom he had been playing, and I took it to be one of those phases of growing up which must be gone through sooner or later. I also felt that it would pass more quickly if it did not have the glamorous aspect of real wrongdoing; not that I encouraged Bobbie or allowed him to feel that I approved his behavior. Quite the contrary was true. I ignored him with con-

ANOTHER TRICK WHICH ALL GROWING CHILDREN SEEM TO PICK UP FROM ONE ANOTHER IS A SORT OF "SMARTY" MANNER. BOBBIE AND ALICE HAVE GONE THROUGH PHASES OF MAKING FACES AND GESTURES AND OF "SHOWING OFF" WHICH WERE EXTREMELY UNATTRACTIVE.

sistent firmness and treated him with the gentle contempt which I told him his childishness warranted. The result was entirely satisfactory, for within six weeks he had forgotten his bad language, or better still, he had discarded it as a poor method of attracting attention. While I do not like to prophesy about my children, I rather think that Bobbie will not turn again to vulgarity or profanity as a means of securing the interest of his fellows, because he has already tried it and found it wanting.

THE parents of any active and adventurous child are constantly astounded by the mannerisms or habits which he suddenly acquires and which seem to appear out of nowhere. We are bewildered to find our children developing along lines which we neither like nor have anticipated.

This was as true of Alice's desire to smoke as it was of Bobbie's swearing. I found her one day at the age of 6 with a cigaret in her mouth, falteringly trying to light it with a match. She jumped guiltily when I came into the room; and when I sat down to question her quietly, she was defiant. "Ruth and Dolly have smoked," she said, "and they say I'm a bad sport 'cause I haven't ever."

"Well, why don't you have a cigaret right now with me?" I said. "I'm afraid you won't like it much, but I don't mind a bit."

Alice stuck half the cigaret in her mouth and lit it. She took a brave big puff, and then she started to cough. I watched calmly while she threw her long sought happiness into the fire and ran to the bathroom to gargle in an effort to rid her mouth of the horrid taste. Again I do not like to prophesy, but I cannot help feeling that it will be a long while before she tries it a second time.

Another disagreeable trick which all growing children seem to pick up from one another is a sort of "smarty" manner. Both Bobbie and Alice have gone through phases of making faces and gestures and of "showing off" which were extremely unattractive. I found that if I remonstrated with them or emphasized their lack of charm during such periods, it only fastened the habit more indelibly on them. Ignoring their mannerisms, plus an occasional hint that they were neither grown up nor interesting, proved by far the most effective way of dealing with them, and little by little they forgot to grimace.

THESE are a few of the many ways in which my own children have absorbed the customs and manners of those surrounding them. In learning how to deal with the whole problem, I began to think of the importance of imitation in the lives of all young people. Few parents realize, I think, what an integral part it is in the education of the children. They absorb, like little sponges, the ways of those about them. In a general way the people whose patterns they unconsciously copy may be divided into two groups; the adults who surround them, and the children with whom they play.

With Bobbie and Alice, I was a little late in appreciating how much difference the grown-up people in their lives could make. In the first place, I was astounded to find how much of my own manner of speaking or acting they had

made part of their own picture, without my being conscious of it. In the second place, I noticed they were taking a little from each grown-up person in the household. I could not personally remove myself from their lives so that they would not emulate my poorer qualities, but I could learn a new way of behavior along certain lines which would be more acceptable to me when I saw it reproduced in my children. As for the other adults, I made up my mind that they must be selected with far more care than I had at first thought. Their honesty and kindliness were not always enough if they were to be with my children constantly. They must be literate and able to talk at least with quiet dignity if not with cultivation.

In this way I learned to control the source of Bobbie's and Alice's behavior patterns. It was considerable trouble and required great self control, but it was worth the effort. When they started to play with other children, however, I was no longer master of the situation. Here again they imitated what they saw, heard and felt. I could not, however, ask Jimmy, who lived next door, to be more careful in his table manners, as I had had to teach myself to be; nor could I dismiss him from association with the children, as I had dismissed their nurse when I found her language inappropriate. I was forced to find a new way of dealing with the undesirable habits Bobbie was learning, this time not from his elders but from his contemporaries. The last thing I wanted to do, naturally, was to isolate my children from the group. Yet at various times their manners have been bad, their personal appearance has been untidy or their behavior far from agreeable to me. And nearly always the cause of their actions was rooted in the fact that "the other kids do it."

THE first lesson I had to learn in dealing with this situation was a certain detachment. So many times, parents lose a sense of proportion about their children. Habits and mannerisms which are really of no lasting importance are the source of much unnecessary parental misery. Parents find themselves, I think, especially unhappy when their children are not at their best before their friends, and it takes great self control not to show an unwarranted disapproval of them. I personally have had to acquire much more philosophy about Bobbie's and Alice's behavior, but I am sure they have benefited by my loss of rigidity. I decided it was quite unfair to expect them, at their ages, to have a highly developed selective sense. On the contrary, that was something which came only with maturity. Therefore, if I expected them to be happy and contented members of their group, I must expect also that they would assume, chameleon-like, most of the superficial characteristics of their contemporaries. The fault was not with them but with me, and I must learn to take it all more lightly.

As for the obviously impossible things like smoking and bad language, I decided not to dignify them by attributing too much importance to them. They must be relegated to their proper places as evidences of childishness, once they had been tried. The inevitable retort about smoking that all children make, that "Daddy does it," may be met by the perfectly reasonable explanation of its bad effects on young people who are still growing. Most children have sufficient pride in their athletic prowess to forego smoking, but it will have an enduring charm for them if it is treated as something naughty and wicked.

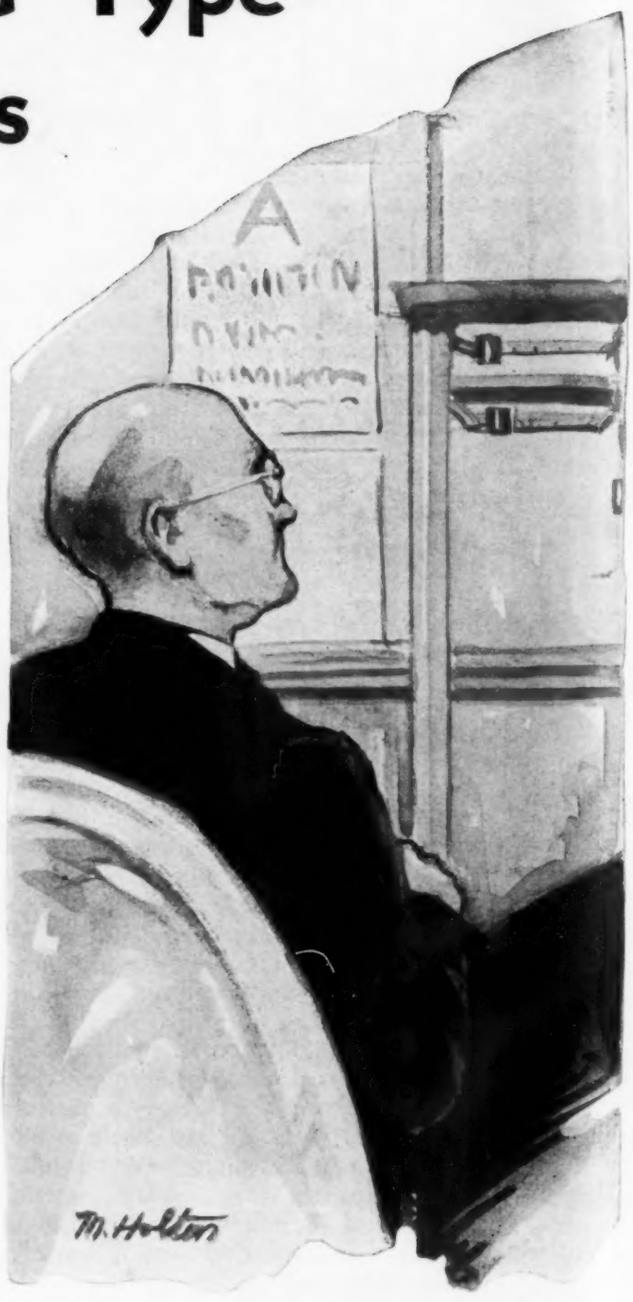
BOBBIE and Alice are neither exceptionally intelligent nor exceptionally good. They are average healthy and adventurous children. They have gone through many difficult periods and have been both unattractive and unhappy, but on the whole, I think their experiments in imitating life as they see it about them have been more constructive than otherwise. This is due, I am sure, to the fact that they have not had to measure up too early to an adult conception of social restraint and also to the fact that they were allowed to learn through trial and error, without having the "error" overemphasized.

[NOTE.—In the May issue, Sophia Yarnall's topic will be "Chosen Companions."]

ALICE STUCK HALF THE CIGARET IN HER MOUTH AND LIT IT. SHE TOOK A BRAVE BIG PUFF; THEN SHE STARTED TO COUGH.

The Childhood Type of Tuberculosis

By MOSES J. STONE



A MOTHER recently brought her 12 year old daughter to a clinic, not as was soon apparent, for diagnosis or treatment, but rather to have dispelled the preposterous idea that there could be anything wrong with her child.

Her little girl, an eighth grade pupil, had just been examined at the state tuberculosis clinic. There, the mother asserted, they had told her the child was suffering from consumption; and she had received a letter to that effect. With almost hysterical indignation, she sought to know what possibly could have given rise to such an absurd notion.

Her child had no complaints whatever; she felt well, played, ate and slept well. Indeed, the mother declared, there was nothing to arouse the slightest suspicion of anything disordered, least of all, consumption; and to substantiate her conviction she had come to the clinic.

A LITTLE questioning soon revealed that consumption had not been mentioned, either in conversation or in the letter. Actually, the word "tuberculosis" had been employed. The mother became impatient at this line of inquiry, insisting that what was meant was consumption; for, she argued, tuberculosis was "merely a term employed by doctors to describe consumption." Eventually, she admitted that physicians at the state clinic had declared that her daughter was affected with what is known as the childhood type of tuberculosis. Obviously, the employment of the word "tuberculosis" had led her to assume that what was meant was consumption, or tuberculous disease of the lung; and, most emphatically, that was not what was meant. Her confusion was of course understandable. Physical examination of the child had not revealed any abnormal signs. There were no symptoms referable to the chest, and to all appearances she gave the impression of being a healthy child. However, routine examination in the girl's school by the state clinic physicians disclosed a positive tuberculin reaction. The tuberculin or von Pirquet test is a skin test which shows whether or not living tubercle bacilli are harbored in the system. Furthermore, in the routine x-ray examination given to those who had shown evidence of infection, as revealed by the positive tuberculin test, it was found that the little girl had enlarged glands inside the chest, near the root of the lung. The report further stated that there was a deposit of lime or calcium in some of the glands; and because of this deposit in the glands, the suggestion offered itself that the enlargement of the bronchial glands was due to tuberculous infection. A diagnosis of childhood type of tuberculosis had been made and this diagnosis was correct.

SHE HAD BEEN TOLD, SHE DECLARED, THAT HER CHILD WAS SUFFERING FROM CONSUMPTION; AND WITH ALMOST HYSTERICAL INDIGNATION, SHE INQUIRED WHAT POSSIBLY COULD HAVE GIVEN RISE TO SUCH AN UTTERLY ABSURD NOTION.

Now what this mother did not know and what thousands of others do not know is that there are two types of tuberculosis of the lungs; namely, the childhood type and the adult type. The first task was to enlighten the mother on the significance of the childhood type of tuberculosis, taking great pains to assure her that the clinic physicians had meant just that, and not pulmonary tuberculosis, which is tuberculosis of the lung.

It was impressed on her that her child, who felt well, who appeared to be well and was even a little overweight, actually harbored the germ of tuberculosis; that is, the child was definitely infected although not sick. She had tuberculous infection in her lung, as shown by a small healed tubercle on the x-ray plate, the lesion of tuberculosis, and she also had a secondary infection of the bronchial glands which drain that area of the lung located near the root. All this had taken place in the girl's chest without giving rise to the remotest suspicion that her health was impaired. It is for this reason that during the last ten years the state of Massachusetts, at an expense of many thousands of dollars, has examined most of the school children, regardless of their symptoms.

In the last ten or fifteen years, the insidiousness of tuberculosis has been recognized. While the disease is most commonly found in adults between the ages of 18 and 25, it actually lays its foundation in early childhood many years before it becomes manifest. As a rule, most persons react perfectly well to a first infection with the bacilli of tuberculosis, provided the dosage is not too great or overwhelming; and rarely does such first infection leave any impression on health. These early, relatively benign bacilli of childhood days are, however, the envoys or the advanced guards of their future brethren. They pave the way for the future. These early settlers get the ground ready and in shape for later and more pernicious arrivals.

Tuberculous disease, or the adult type of tuberculosis, is usually caused by reinfection with other tubercle bacilli, the later arrivals, and the disease is not usually caused by the first invaders. The early ones merely prepare the soil and rarely get a chance to do much harm. Usually they lodge in the lung near the pleural surface. A limited reaction occurs there; and if the resistance of the child is poor, which is especially true among Negro children, a definite reaction may appear in the lung substance. This causes infection and consequently an enlargement of the bronchial glands, which, however, usually heal, giving rise only infrequently either to local or to constitutional symptoms.

However, herein lies the significance of the childhod type of tuberculosis, as it was explained to the distracted mother: should another dose of these bacilli infect this child at a future date, they will grow and flourish better in the lung substance than did their earlier brethren. They will live, like terrible parasites, at the expense of the lung, destroying it if they can and evolving the adult type of tuberculosis, or consumption. It now became the duty of this mother to exercise tireless vigilance to prevent reinfection and a lowering of her child's resistance.

Let me emphasize this point, for it is the essence of my message: The medical profession now speaks of the first infection as the childhood type of tuberculosis and of the reinfection as the adult type. The first type is of no particular moment as far as immediate impairment of health is concerned, but it has grave potentialities. The second type, or the reinfection, may cause serious disease. Members of the medical profession and all health authorities feel now that in order to make any progress in combating the ravages of this disease, the attack must be made during the stage of first infection; one must not wait until reinfection occurs; in short, reinfection must be prevented.

Reinfection may occur occasionally from within by the breaking down of the old incompletely healed glands and the releasing of bacilli, or from without, as is usually the case, by frequent contact with individuals who have the germ in their sputum. Therefore, the primary aim of the public health workers is to discover whether the child has been infected. This is accomplished by the tuberculin test and the x-ray examination.

If the child is found to be infected, all sources must be sought with the idea of removing the danger of further infection. Members of the family who come into direct contact must be examined to ascertain whether they are the feeders of the bacilli to the child. Such individuals must be segregated and not allowed to have further intimate association with the young patient. The life of the child must then be so regulated that resistance to all disease will be above par; for any run-down condition or intercurrent acute infection, such as measles or whooping cough, may undermine resistance and cause a breakdown of the healed glands, rendering the child more susceptible to external or internal infection. Fortunately for the race, our natural resistance is good; for, although more than 30 per cent of all children have a first infection, only a small percentage of them will suffer from adult tuberculosis.

The term "childhood type of tuberculosis" has been introduced into medical parlance only within the last five or six years. Previously the condition was known as hilum tuberculosis, pretuberculosis, or epituberculosis. It is a definite disease entity and not necessarily a disease of childhood. The first infection usually occurs in early life and leaves its mark at that period. If, however, one escapes the infection and receives it in adult life, then the adult may have the childhood type of tuberculosis.

Every child should be examined regularly by a physician, and this routine examination should include the tuberculin test. It is practically painless and harmless. If there is a positive reaction, as shown by slight redness on the arm, an x-ray examination should be made by a competent physician. Frequently the childhood type of tuberculosis explains such mild symptoms as lassitude, fatigue, lack of appetite, failure to gain weight, pain in the chest and slight cough—symptoms too often overlooked.

By the application of the ordinary rules of hygiene, especially avoidance of fatigue and the increase of rest periods, the resistance of the child can be increased to a great extent. By such precautions and by finding out and segregating all intimate sources of infection, a future catastrophe may be averted. Ignorance is sometimes spoken of as bliss, but this decidedly is not the case when one is dealing with such an insidious disease as pulmonary tuberculosis.

ANTONY VAN LEEUWENHOEK (1632-1723)

First of the Microbe Hunters

By ADOLPH BEILIN

BORN WITH the gift of genius and impelled by scientific curiosity, Antony van Leeuwenhoek was the first man to mark an epoch in the sciences of anatomy, physiology, botany, zoology and bacteriology. He was the first of the microbe hunters, and he opened new fields in the study of human diseases. Looking at a drop of rain water through a lense of his own making, he was first to discover an invisible world of animal life, a world of fast moving creatures a thousand times smaller than can be seen with the naked eye. He called these animals "wretched Beasties," and he wrote, "They stop, they stand still as 'twere upon a point, and then turn themselves round with that swiftness as we see a top turn round, the circumference they make being no bigger than that of a fine grain of sand."

In 1686, Leeuwenhoek discovered the minute capillary circulation of the blood in various animals. Harvey announced the circulation of the blood in 1628, but he did not have the direct ocular proof of the passage of blood from arteries to veins which Leeuwenhoek had. Leeuwenhoek was a forerunner of modern medical research. Among his discoveries bearing on physiology and medicine, it is sufficient to mention the following: the branched character of heart muscles, the structure of the crystalline lense and the description of spermatozoa. He was called the founder of histology. He turned his microscopes on everything he could lay his hands on, and he made many observations on the construction of wood, plants and vegetables. He anticipated the cell theory and contributed to the progress of minute anatomy.

Leeuwenhoek's first published work on his microscopic discoveries appeared in 1673 when he was 41 years old. He was fascinated by the marvels of the microscopic world, and he gave excellent descriptions of his discoveries and drawings of his instruments. He died in 1723 in the city of his birth, Delft, Holland.

Harvest-Mites and Ticks

Chapter XI of
OUR PARASITES

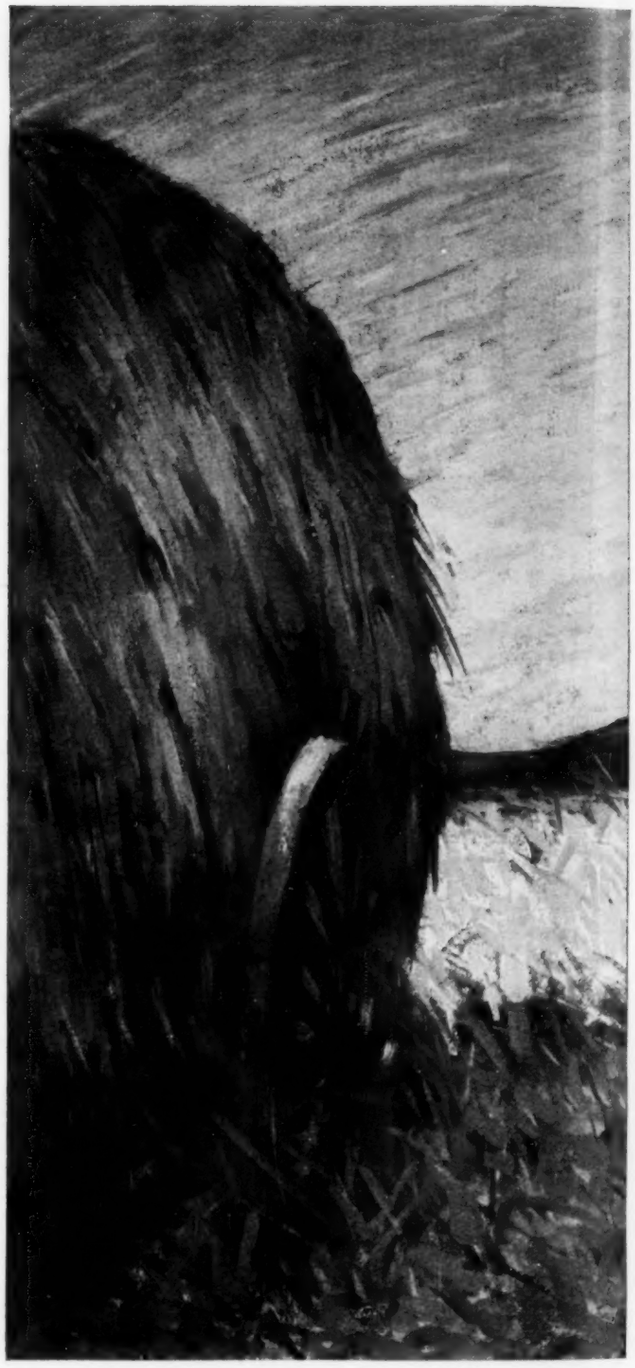
By
Claude Lillingston

THE HARVEST-MITE family is large, and the tick family is prodigious. Both families belong to the main, arthropod group; but the variations among the members of the several families within that group are almost infinite. Some mites live on land, others in fresh water and others in the sea. They are to be found all over the world. In the tropics the largest give the lie to their name by attaining a length of almost ½ inch. The smallest are invisible to the naked eye. Ticks ring the changes on the family features with untold variations. Some have more than one pair of simple eyes, and others have no eyes at all. Some are large and some are small; and most, if not all, respond to a hearty meal by a growth of volume several times that of the original. A modest little tick, with the dimensions of a small pinhead, grows as big as a filbert nut at the cost of its victim's blood. The tick's stomach is elastic if it is anything at all.

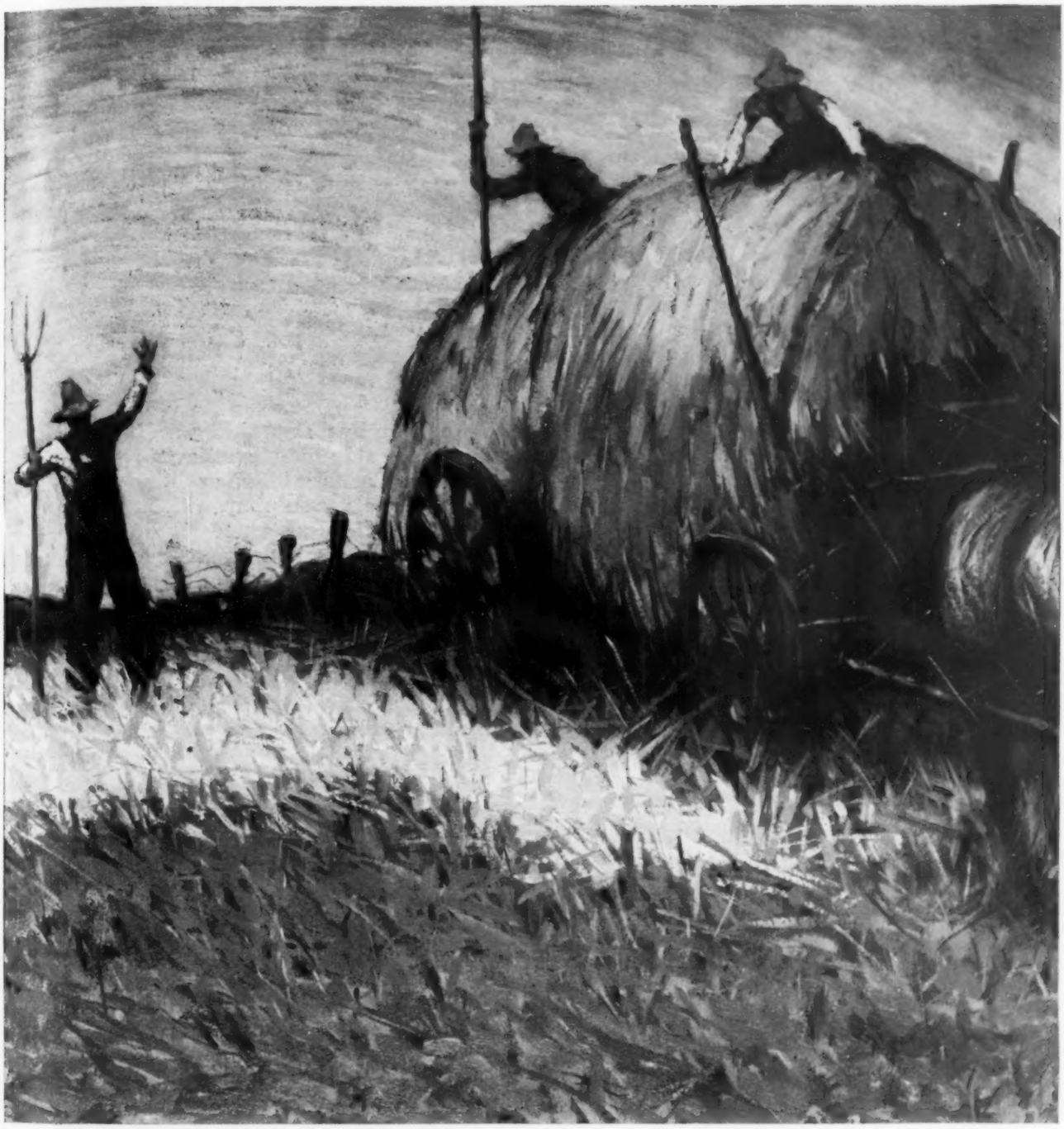
The names given to the harvest-mite are almost as varied as the beast itself. It owes its original name to its prevalence at harvest time; hence such familiar variants as the autumn-mite or autumn-bug. In the United States it is commonly known as the chigger, although it has nothing to do with the dangerous South American flea, known as the chigoe, or jigger. The mite is known in France as the *rouget* or *bête rouge*. In Italy, it is called *acaro autumnale* and in Germany, *herbstgrasmilbe*. In Japan the terms *akamushi, kedani* and *shimamushi* have been given to it.

There is still much confusion over the life cycle of the various mites because of the inability of entomologists to say which adult mites are responsible for a given larva. However, the innocence of the adult harvest-mite as a troubler of men is common knowledge; it is only in the larval stage that it is a real nuisance. The larva is provided with a powerful hypostoma which it drives through the skin of its host, to whom it is thus firmly anchored. The result is familiar to every one. In the tropics the bite of this larva is considered worse than that of mosquitoes, ants and other pests.

The parent mite is a bright, satiny scarlet, relieved here and there by dark spots. This color is caused by the presence of numberless red hairs with which the legs as well as the body are studded. Minute stalks carry the eyes.



THE NAMES GIVEN TO THE HARVEST-MITE ARE TIME; HENCE SUCH FAMILIAR VARIANTS AS THE



ALMOST AS VARIED AS THE INSECT ITSELF. IT OWES ITS ORIGINAL NAME TO ITS PREVALENCE AT HARVEST AUTUMN-MITE OR AUTUMN-BUG. IN THE UNITED STATES IT IS COMMONLY KNOWN AS THE CHIGGER.

The male is smaller than the female. In the spring and early summer the adult mite leads a roving life, preying on its fellow creatures. The accuracy of this statement has, however, been queried by certain entomologists, who see in the adult mite an amiable vegetarian living on the juices of plants. The point is of little more than academic interest; the only fact which really interests us in this connection is that the adult mite does not prey on human beings.

The eggs are laid in the late summer and hatch out in about three weeks. The six-legged larvae, which have a deep orange color, swarm over the grass in search of such warm blooded animals as human beings, hares, rabbits and moles. Having attached itself to the skin of its victim, the larva distends itself with blood and falls off after a few days. It now buries itself in the earth, molts and in due course emerges as a youthful adult. Between the larval and the final adult stage there may be several molts.

SETTLING on a human host, the larva easily passes through the coarse meshes of stockings and sets to work on the skin. The hypostoma is usually inserted into a hair follicle or the opening of a sweat gland, such a passage proba-

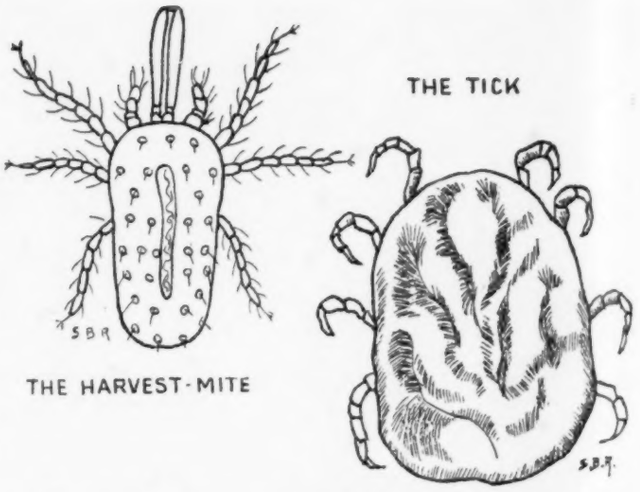
bly being regarded as a labor saving device. Since the larva is so tiny, it is practically invisible, in spite of its reddish color, but when several larvae are frustrated in their roving and are clustered together near such an obstacle as a garter or a wrist band, their color betrays them to the naked eye. The bite soon becomes red, itching and swollen. The swelling may be as large as a split pea, and the itching may keep the patient awake. Invading poultry by the million, larvae may kill their hosts by bleeding them white.

It is probable that in most countries the mite causes only local discomfort, but in Japan and Formosa it has been convicted of infecting human beings with pseudotyphus, or Japanese river, fever. This disease is peculiar to certain areas along the banks of rivers and is fatal in a high proportion of cases. Monkeys are subject to the same disease when bitten by the mite. It is, in fact, on the experimental monkey that the mode of spread of the virus of this disease has been worked out.

It is believed in Japan that several small rodents act as the reservoirs of this virus, which is swallowed by the larval mite as it feeds on an infected rodent. The mite, having thus infected itself at the one great meal of its lifetime, buries itself in the earth, as has already been seen, as a preliminary to molting and growing up. Having attained maturity, the mite lays its eggs, which in their turn yield larvae ready for a meal of blood on a new host. Meanwhile, the virus of Japanese river fever has faithfully followed the mite through all its metamorphoses, including the egg. The new-born larva is thus able to pay its host for his blood with the germs of this deadly disease.

THE adult mite, not being addicted to sucking blood, acts only as an intermediate link or carrier of the disease from one larval stage to another. If, however, the body of an infected adult is crushed and injected into a monkey, the animal will contract the disease without waiting to be bitten by a larva. Doubtless, this particular disease will be found to be prevalent in areas where it has not hitherto been suspected. Future research will also assuredly convict the harvest-mite of other or allied diseases, all more or less serious.

Persons who must walk in infested fields in the late summer are bound to suffer more or less. Women and children in particular are penalized by the mite, probably because of the relative softness of their skins. Once the mite has dug itself in, any attempt to evict it by violent scratching may merely divorce the mite's body from its head, which is left behind in the skin. A much wiser procedure than scratching is to apply a drop of gasoline or benzene on the itching spot. The mite then withdraws its hypostoma more or less voluntarily and retires as quickly as it can. The itching of the skin may be relieved by the application of an alcoholic lotion or diluted ammonia. The mite objects to sulphur, which may be used as an ointment or as a powder dusted on the inside of stockings and trousers to discourage newcomers. Powdered naphthalene serves the same purpose. Such mechanical obstacles as wristbands are, as we have seen, effective in holding up an invading army of harvest-mites.



THE tick has been defined by Dr. A. E. Shipley as a mite "writ large." The two tick families of most interest to man are Argasidae, or soft bodied ticks, and Ixodidae, or hard bodied ticks. The hard bodied ticks are provided with a scutum, or dorsal shield, a dark yellow plate protecting the back of the tick. In all the phases of its development, the egg phase only excepted, the tick maintains a certain uniformity of appearance; the larva may have only three pairs of feet, while the nymph and adult have four pairs; but a tick is a tick for all that, however youthful it may be. While the flea is flattened from side to side, the tick is flattened between back and belly, a configuration which enables it to crawl through tiny cracks, feet undermost. There may have been a time when the head, chest and abdomen were easily distinguishable, one from the other, but in the tick of today these structures merge so imperceptibly into each other that the tick can lay claim to neither neck nor waist.

When a hard bodied female tick finds a host and attaches herself to his skin, she is often followed by her male counterpart, who is much her inferior in dimensions and who attaches himself underneath her. Several other males will often be found in the immediate neighborhood. Having become fertilized and gorged with blood, the female weighs anchor, retiring to some crevice or other sheltered spot in which to lay her eggs, the number of which runs into four figures. They are brown and globular, and are carried on the female's back until she is ready to part with them. As the laying is one

uninterrupted process and as more than a thousand eggs are produced, it is not surprising that, on the completion of the operation, the female is found under the mass of eggs, shriveled and dead.

After an incubation of variable duration, a larva creeps out of the egg and crawls on to some promontory such as the tip of a blade of grass, where it can lie in wait for an accommodating host. If he but shakes the blade of grass or blows on it, the yearning larva will be seen to extend its forelegs in the air, in a pathetic endeavor to seize a hair or any other part of the potential host likely to provide a secure purchase. In most cases the larva's chance never comes, and it dies of starvation and ennui, its highest ambitions unfulfilled. The lucky few who secure a footing on a warm blooded host soon begin to suck his blood. Having drunk their fill, they drop off, crawl into some protecting crevice and there molt and acquire the additional pair of legs which distinguishes the nymph from the larva.

This octopod, nymphal tick repeats the trick played in the larval stage; the nymph lies in wait for a suitable victim and, if a successful landing is effected, sucks his blood. After blood has been sucked, the bloated nymph lets go its hold, crawls into retirement in some crack or crevice, and there molts and changes into a male or female adult tick. As pointed out by Patton and Evans, ticks may be roughly classified according as they are one-host, two-host or three-host ticks. The three-host tick is one which as a larva preys on one species of host, as a nymph on another species and as an adult on a third species. The one-host tick is the most fortunate, for by sticking to one and the same host all the time, it can go through all the stages of its life cycle without interruption. The two-host tick, and still more the three-host tick, may have their careers cut short by a lack of the appropriate host at the critical moment. Ticks can, however, afford to bide their time, as the life history of a single tick runs into two or three years.

THE foregoing remarks apply to the hard bodied tick. The soft bodied tick spends most of its life far from its host, whom it visits only at meal times. Host and guest are in touch with each other only for the brief interval required by the tick to feed. Like its cousin the harvest-mite, the tick punctures the skin with the delicately chiseled machinery of its mouth parts, some of which are fitted with barbed teeth. The tick has voluntary control over these teeth; if it is annoyed by discourteous treatment, it sets its teeth. Then the only effect of pulling on its body is to make it part company with the head, which is left as a troublesome irritant in the host's skin. The host who is diplomatic enough to resort to a drop of gasoline, alcohol or other notorious poison, will find the tick amicably withdrawing its teeth as a preliminary to an orderly retreat.

Many species of ticks convey germs of serious diseases to man and to animals. The troublesome African relapsing fever is due to Spironema duttoni, introduced into the blood by an infected tick. Once such a tick is thus infected, the germ may be passed on from one generation to another through the eggs; and the same tick may continue to be a source of this infection for more than a year. There is also Rocky Mountain spotted fever, the germ of which is passed on from parent tick to child tick, obeying the laws of heredity from one generation to another without the intervention of an intermediate human host. In other words, the continuity of the germ of this disease can be maintained indefinitely within the tick family without any need for calling in strangers. There is also a disease known as tick paralysis, which is common in South African sheep and occasionally is observed in human beings. The offending tick in this case is Ixodes pilosus. The newly discovered disease, tularemia, which derives its name from Tulare, the locality in the United States in which it was first recognized, is conveyed by the tick Dermacentor venustus. It is probably not the only carrier of tularemia, the germ of which lurks in such living reservoirs as hares and rabbits. Exanthematic Mediterranean fever, first described in 1925 by Olmer, is transmitted to man by the tick of the dog, which acts as the intermediate host and reservoir of the germ of this disease.

THE ravages of tick-borne diseases in cattle and other animals are also serious. There is, for example, Texas cattle fever, which inflicts great economic losses in the southern part of the United States. This disease is endemic also in Central and South America, Mexico, the Philippines, southern Europe and parts of Africa. Extermination of the offending tick is practically impossible because of its hardiness and longevity. Tickicides, used wholesale and systematically, are fairly effective. The life cycle of the tick can be broken to a large extent by wise pasture rotation, the crops being changed from year to year in such a way that the tick is starved out in the larval stage. It should be remembered that breaking the life cycle of a tick is a matter of years, not months.

Buildings infested by ticks may be treated with petroleum, perchloride of mercury, turpentine, tar, lime or any other cheap and effective disinfectant. There are occasions, however, when sheds and other wooden buildings are so infested that the best remedy is to burn them.

[NOTE.—In the May issue, Dr. Lillingston will conclude his series on "Our Parasites" with the twelfth article, "The Mosquito."]

TOOTH DECAY—The Universal Disease

Chapter IV of
These Teeth of Mine

By DAVID W. McLEAN

AN IMMIGRANT girl, quite recently arrived, looked with longing eyes at the chocolates her mistress offered her, but she shook her head regretfully. "No ma'am, thank you," she said in broken English, "it make my teeth go away."

Her mistress, relating the incident, laughingly arose from the dental chair. The office nurse delivered a message from the chauffeur that the car was waiting. The patient turned in the doorway, the picture of refinement, culture and distinction. "Of course, Doctor," she said, "these foreign people have trouble with their teeth. But I certainly should like to know why *my* teeth 'go away!'" She waxed indignant. "They get every care, as you know, but in spite of it all, you always find more decay."

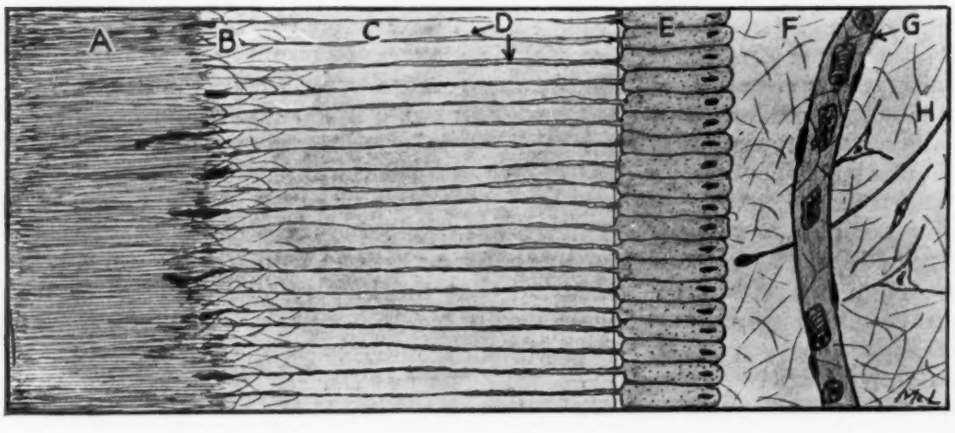
Tooth decay is no respecter of persons. It attacks the slum dweller and the lake-front magnate; the child in kindergarten and the aged by the fireside. It is probably the most universal disease of our day. And it is one of the most serious of diseases! In an underhanded, insidious way, its effects are far-reaching and often devastating.

Long before the cavity in a child's tooth causes an ache, it will make the child chew on the other side of the mouth; the food, mixed with bacteria from the cavity, is only half chewed. The chewing muscles of one side are used more than those of the other. The two sides of the face will develop unevenly. The child's rest is disturbed as well as his digestion; these are important items during the growing age, when maladjustments leave their mark for life. The nervous system suffers also; many bad boys and peevish girls are made so by the nagging of tooth cavities, and even kleptomania has been reported cured by care of a child's teeth.

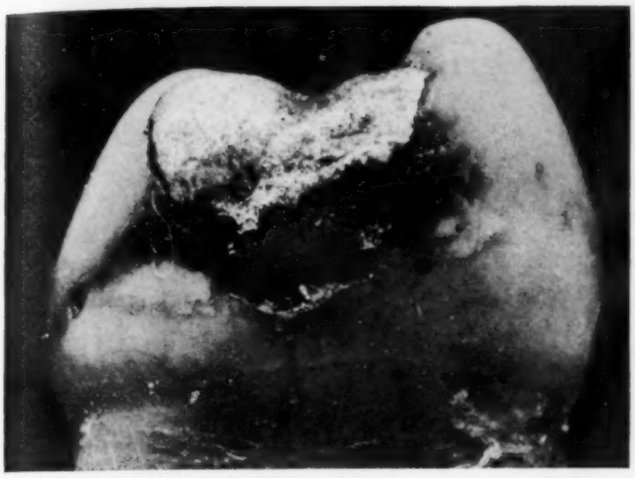
Tooth decay, scientifically called caries, is even more serious in the adult and is just as underhanded in doing its mischief. The great health problems of today are the chronic diseases, among which are numbered anemia, high and low blood pressure and heart disease. Their background is infection, with pulpless, or dead, teeth as one of its commonest sources. The commonest cause of dead teeth is caries.

NEGLECTED decay, or undiscovered decay under old fillings, insidiously eats its way toward the tooth pulp and the circulatory system, breeding and carrying infection as it goes. By the time the tooth is filled, the advance guards of the infection may have already reached the pulp; although still alive, the tooth is an infected tooth. Such a pulp is liable to "die under the filling"; and having died, it may go undiscovered for years, a source of infection and toxins for absorption into the body.

Again, caries may reach the pulp itself, and when the dentist removes the diseased dentin, he finds the pulp uncovered or exposed. He must choose between a dead tooth and the forceps. What then is this insidious monster, caries? Why does it leave its mark on 999 persons and not on the thousandth? Caries is the cell-by-cell death and disintegration of bone or tooth. Pyorrhea is an example of caries of the bone. In the dark ages of dentistry, a few centuries ago, the cause of caries was thought to



THE BATTLE GROUND OF DECAY IS SHOWN IN THIS SCHEMATIC DRAWING OF A HIGHLY MAGNIFIED SECTION OF A TOOTH: ENAMEL (A); POROUS LAYER (B); DENTIN (C), STRIPED WITH TUBULES (D) WHICH CONNECT WITH PULP CHAMBER IN CENTER OF TOOTH AND CONTAIN FIBROUS EXTENSIONS OF CELLS (E) IN OUTER LAYER OF PULP (H). NEWS FROM THE FRONT, SOMETIMES INCLUDING PAIN, IS TRANSMITTED FROM THE FIBERS TO THE CELLS, THENCE THROUGH TINY NERVES (F) TO THE CENTRAL NERVOUS SYSTEM. SMALL BLOOD VESSELS (G) TRANSPORT SUPPLIES FOR THE FRONT.



A HASTY OR CARELESS AMALGAM FILLING SUCH AS THIS ONE FAILS TO SEAL THE TOOTH AGAINST BACTERIA AND DECAY.

IF THE AMALGAM FILLING IS CONSCIENTIOUSLY INSERTED, IT MAY HAVE GOOD MARGINS EVEN AFTER YEARS OF SERVICE.

be a very definite one. Just before pouring in the melted-pitch filling, the dentist was wont to flash before the patient's bulging eyes a neat little worm, which he claimed to have removed from the tooth. This was perhaps the origin of the art of removing white rabbits from high hats. At any rate the patient was convinced that his tooth troubles were over.

There still persists the idea of a generation or two ago that some teeth are just naturally soft and crumbly, that this is a hereditary tendency.

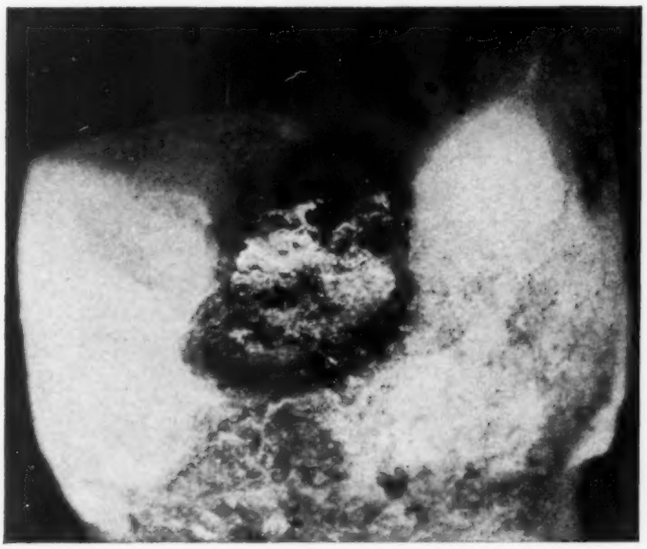
THE modern conception of tooth decay was presented to the world in 1904 by W. D. Miller, an American dentist doing research work in Berlin. Miller claimed that caries was a chemicobacterial process of tooth disintegration. His theory has been shot at ever since, by heavy artillery and light. The dietitians recently thought they had it sunk, but it has bobbed up again, apparently as watertight as ever. When the vitamin-and-diet furor has settled down to its proper proportion and place, it will be found sailing smoothly along, on the deck of Miller's ship of doctrine. So sound was his conception that it even covers resistance by vitamins which were discovered years later!

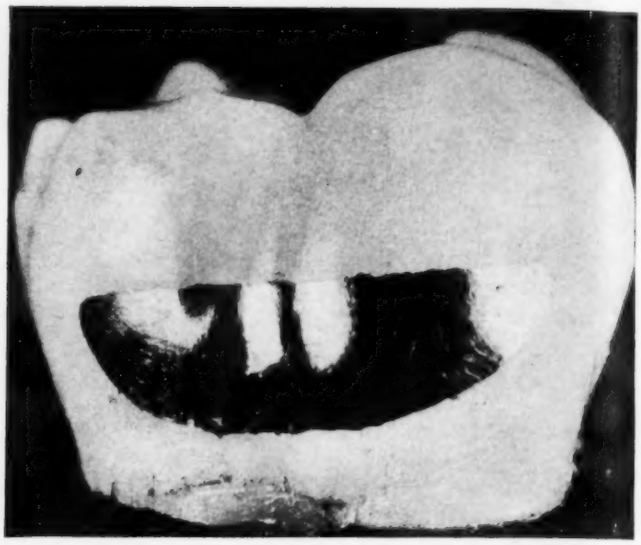
Caries is a chemicobacterial process. Starch and sugar from a previous meal collect in minute quantity on the surface of a tooth in a protected nook; also present are bacteria and mucin, a name rightly suggestive of mucilage. These products attach to the tooth in a tenacious, tough mass or film. Bacteria cause the starch and sugar to ferment. Acid is produced which quickly kills some types of germs. More acid is produced until even some of the acid-producing germs die of their own product. But there is one germ, known as Bacillus acidophilus, for which acid holds no terrors. This germ is supposed to be a beneficent type, and it probably is, in its proper place; but the proper place is not the mouth. Acid can hardly be too acid for this germ, which works merrily on, even when the acid begins to dissolve the hard enamel shell, that hardest of animal substances. As the enamel surface is etched, bacteria and food to sustain them find their way in and continue the process. If a dentist discovers the caries now, before it has penetrated to the inner surface of the enamel, it may be polished off, the enamel may be given a highly glazed surface, and the tooth-brush technic may be improved a bit, thus nipping the trouble in the bud without a filling.

But at the inner surface of the enamel, where the dentin begins, among the ends of countless minute tubes, lie small spaces. Under the microscope these spaces look like long narrow lakes, each containing living protoplasm which connects with that in the tubes, which in turn connects with a layer of cells in the flesh, or pulp, in the center of the tooth. Having gained access to the interior of the tooth by the chemical action of the acid they produce, the bacteria now fall on these vital elements.

ADVANCE guards push on into the tubules and approach the pulp; the protoplasm in the tubules fights back; unconscious messages are flashed to the pulp and probably relayed to the central nervous system; assistance is hurried to the scene; earthworks of calcium and phosphorus are sent through the blood stream to the front, to harden the dentin in an attempt to resist the invaders. Meanwhile, defensive breastworks of calcium and phosphorus are being thrown up in the flesh of the pulp, beginning at the outer edge, nearest the approaching conflict. Soon there is a solid wall of new dentin where once was flesh. The pulp itself has retreated behind the new breastworks.

Conditions are now ideal for General Acidophilus. The surface opening is small enough to keep out the alkaline saliva, the dentifrices and the brush; inside there is a roaring inferno of acid, of dissolving calcium and phosphorus and





LIKE OTHER FILLINGS, THE GOLD FOIL FILLING MAY BE EITHER GOOD OR INADEQUATE. THE GOLD IS ONLY THE PILL; THE INTANGIBLE QUALITIES GIVEN IT BY THE DENTIST CONSTITUTE THE REMEDY OR THE MENACE THE PILL CARRIES. ADVERSE FACTORS OF POSITION AND APPLICATION AND PERHAPS ALSO THE PATIENT'S DEFICIENT MINERALISM HAVE RENDERED THE GOLD FOIL FILLING IN THE FIRST ILLUSTRATION A MENACE AFTER A FEW YEARS' SERVICE. THE SECOND ILLUSTRATION, HOWEVER, SHOWS A CAREFULLY EXECUTED GOLD FOIL FILLING WHICH SEALS THE TOOTH AGAINST BACTERIA.

of dying protoplasm. And for some reason, although the pulp is crying to heaven for reinforcements, they are slow in coming. Little by little, the invading horde creeps in on the pulp, leaving devastation behind it.

THEN comes the unexpected bit of bone in the fricassee. Crunch! "Ohhh! The whole corner of my tooth has broken off. Oh, dear, my teeth are so soft!" Perhaps they were examined only recently and pronounced all right by the dentist, who now has something to explain. In some places only the x-rays will reveal even a fair sized cavity; in others only the instrument and painstaking search will discover the minutely starting process.

But where, one asks, do vitamins fit into that picture? The reply is another question: What of the reinforcements for which the pulp was crying; what of the failing strength of the battling protoplasm, on short rations in the midst of mortal combat? The situation could have been saved by the calcium, phosphorus and vitamins of the dietitians!

Moreover, proper diet seems to make the saliva, and thus the mouth, an unhealthy place for Bacillus acidophilus to operate.

Some mouths seem immune to Bacillus acidophilus. From those mouths, caries is conspicuously absent. If the immune children are given acidophilus milk, the decay-producing germs will be found in their saliva for a short time; in a few hours the germs are gone, and in a few days they are gone from even the intestines.

But the susceptible individual has a mouth swarming with acidophilus bacilli and rampant with decay. If the diet is almost stripped of carbohydrates these bacilli will begin to lessen in numbers; but let the susceptible individual resume eating bread, potatoes and especially candy, and again they will multiply. Shortly thereafter, the decay will become active once more.

The dentist therefore finds in the same school or orphanage, on the same diet, one child who has a mouth free from acidophilus and decay while the mouth of another child is overrun by both. Why? The answer is not known. All he can do is feel a bit foolish, try to look wise notwithstanding, and say "immunity." Perhaps children who are "susceptible" have special dietary needs; the others' meat is their poison. Perhaps, too, their brushing equipment or technic is poor. Perhaps some hitherto elusive element in the saliva is present or is not present. In all sections of the country keen minds are focused on the problem from all angles.

SOME thirty years ago the government undertook to improve the condition of some "savages" of the Northwest. The children were taken out of wigwams and put into dormitories, and were fed civilized food at real tables, with real knives and forks. In a year the director sent to the nearest city and asked a dentist to come out and examine the children's teeth, for he was worried about them. The dentist reports that he found decay rampant; there were large cavities in unaccustomed places. Some of the older braves had teeth worn to the gums but no evidence of rampant caries. One of the chiefs said to him: "Same air; same water; different food." The doctor ordered the youngsters back to their wigwams and their native diet.

But in other parts of the world there are people living on diets entirely "wrong" and still keeping wonderful teeth!

"Vitamins?" shouts the acidophilist. "Bosh!"

"Acidophilus?" shouts the dietist. "Bosh!"

Both are partly right; both are partly wrong. A logical program for the prevention of caries must assume that both the acidophilist and the dietist are correct. It must guard every possible avenue of approach.

First and always, keep the mouth and teeth clean. It is not true that "a clean tooth never decays." It is true that clean teeth do not decay as often or as rapidly as do unclean teeth. Use antiseptics, pastes or powders, which purport to be such, and not cure-alls. Some dentifrices bear the stamp of approval of the American Dental Association. But above all, use a good, clean, stiff brush; own several of them, and use "plenty of elbow grease." Get into all the out-of-the-way corners; for the sheltered nooks are dear to the heart of Bacillus acidophilus.

The general health is important. Teeth are a part of the body. Maintain in the diet, portions of the mineral-bearing leaf vegetables and fruits, with plenty of citrus fruits. Do not eat excessively of sweets and carbohydrates; in cases of susceptibility to decay, reduce them to a minimum. Find an occasional place in the sun, or take cod liver oil, or do both in moderation.

LAST but not least, have the teeth examined by the dentist as often as need be, twice a year or oftener if they are susceptible to caries. If the dentist takes time to search them over minutely, don't fidget; be glad that he is careful. If he merely takes a glance around and, seeing nothing in which to park a car, says "Everything is all right"—well, use your own judgment. If he takes an hour to cleanse your teeth, scraping, polishing and polishing, don't decide that he is slow, or take offense if he charges you for an hour's time. You have fallen into good hands!

When caries passes the stage of prevention and polishing, we mount a horse of another color. It is still the horse of prevention but is of another color because we must resort to surgery, the "drilling out" and filling of the cavity. The filling of a tooth is surgery; hence the degree, Doctor of Dental Surgery.

The reader's chief interest in drilling is to avoid it or forget it. There is, however, a time-honored myth to be exploded at this point.

"When I went to that man," exclaims the indignant expatient, "I had just a tiny hole in my tooth. He drilled and drilled. When he had finished, the cavity was most as large as the tooth! Terrible, the way some dentists do."

Still more terrible is the way some of them don't! For the success of a filling demands first of all a thorough removal of all carious tooth structure and a little more, having in mind the bacterial advance guards which travel ahead of the main army. The cavity is always larger inside than on the surface. The opening must be enlarged. The cavity should be extended on the surface so that its margins will lie out in the open where the friction of the tooth-brush, the tongue, lips or cheeks, and of food being chewed will keep them clean. Tooth surfaces thus open to friction are called immune areas; those inaccessible to these cleansing agencies are rightly called susceptible areas. The margin, the joint between filling and tooth, is the weakest joint in the tooth's armor. Logically it should lie in an immune area. That joint in the armor is important in deciding the merits of a filling material or of the finished filling. Two hundred thousand bacteria can roost on the point of a needle! That joint must be tight!

ALL FILLINGS have their good points and their bad ones. In one position the good points are important and the bad ones negligible; in another the good points do not matter much, and the bad points are very bad. So the dentist, not the patient, should choose the filling material as a physician chooses among drops, pills or a salve. He should put into it the characteristics and the niceties of detail and function that will make of that filling a real remedy. A filling, even a shiny one of gold, may be poison for the tooth, ruining it in the end.

What material gives the tightest joint? The answer is cement, the filling that dentists used to call bone-filling, which is now discarded except for temporary use. It was discarded because its bad points outnumbered its good ones. It disintegrates in the saliva and with the friction of chewing. It allows caries to start again around its edges. But cement adheres to the tooth and seals it, as long as it lasts. None of the other fillings adhere, unless they are cemented; all are better when lined with cement, provided the cement does not occur in the margins, on the surface of the tooth, where it could disintegrate.

The amalgam, or so-called silver filling, is made up of filings of tin and silver alloy, mixed with mercury. The filings and mercury unite chemically, or "set," forming a new metal which is the amalgam. Mercury and pure silver would expand excessively during the setting process and might even split a frail tooth; mercury and tin would contract; so the metals are proportioned to balance each other's action. Clever! But expansion occurs first, followed by the contraction. So the margins first extrude a bit and then pull away from the tooth slightly, opening up a minute crevice. If the filling is a hasty or careless one, the crevice will be larger. The filling is prone to leak and to let in Bacillus acidophilus and caries.

Amalgam is soft also; it flows, or flattens and spreads, under stress. Some claim that it gives off, for years, homeopathic doses of mercury. One investigator put some cockroaches in a Bell jar with amalgam fillings removed from teeth. The cockroaches lay down and died. "Pooh," said other authorities, "that just shows how easy it is to kill cockroaches." *(Continued on page 333)*

SHADOWS

By

Josephine Whaley Haggard

CAST OF CHARACTERS

MRS. HALL
MRS. THOMAS
PEGGY HALL
EMILY THOMAS
JOHN THOMAS
JANE
JANE'S MOTHER
NURSE

ACT I

The scene is a scantily furnished sickroom. The patient, Mrs. Thomas, is lying on a tumbled bed. Beside the bed is a table on which stand a pitcher of water and a glass. The time is midafternoon in late winter. A light knock is heard. Mrs. Hall, a poorly dressed woman, enters, carrying a baby. She balances the baby on her hip with one hand while in the other she carries a pie.

MRS. HALL:

Good ev'nin', Mis' Thomas. Thought me and the baby would come over to spend the afternoon an' see what we could do for you.

MRS. THOMAS:

Well, Mis' Hall, I'm mighty porely today. I had 'n awful night sweat last night, 'count o' Will forgot to put the pan o' water under the bed.

MRS. HALL:

Land sakes! Lemme see if they's any in that there pan now. *(As she starts to put the baby on the bed with the patient, she notices that the baby has fallen asleep.)* Well, if Peggy ain't went to sleep.

MRS. THOMAS:

Well, jest lay her over here on t'other side o' me. 'T won't bother me none.

MRS. HALL:

Oh, I can jest put her on a pallet; it ain't so cold.

MRS. THOMAS:

No, no, put her over where I can keep her covered. *(She coughs between breaths in giving directions.)*

MRS. HALL *(removes the pan and takes it to refill):*

Has Emily and John got over their colds 'nough to go to school today?

MRS. THOMAS:

Yes, but they jest keep a cold. I don't b'lieve that old asafetida is fresh. It ain't done them no good all winter, and neither has Will's socks around their necks at night. Mis' Roe was over here last week and said her folks had all been down, but she had the doctor come out and give 'em a round of medicine, and they was all well now. She acts sort o' funny when she comes over here. She won't let her kids come with 'er 'cause she says they're so rowdy they'll bother me—but she sits so far from me—she acts like a person with lung trouble is catchin'. *(She coughs convulsively again.)* I'll be glad when the sap dies down; maybe then I can git up.

MRS HALL:

Yes, so will I. It saps our stren'th. We all need a tonic. I give my folks Black Draught, and Ben's ma always sends us sassafras tea from Missouri.

(Emily and John enter. They have returned from school. They are both coughing, and they look weary.)

MRS. HALL:

Well, what did ye learn today?

EMILY:

We had a doctor man to call us in before our recess was over to look in our mouths with an old flat stick whittled down.

JOHN:

Yeah, and he mashed all over my neck, and asked if it hurt. Course it did, but I never told him. Said somep'n about "this lad looks like he's got some kind o' glands." Man, I

"WELL, JEST LAY HER HERE ON T'OTHER SIDE O' ME. 'T WON'T BOTHER ME NONE."

shore run when I got out o' there so's he wouldn't fix up no old stuff to take. *(John goes to the table and takes a drink from the glass which his mother has been using; then he runs out to play. Emily, coughing frequently, stops a moment to play with the baby and then follows John.)*

MRS. THOMAS:

What you reckin this new fangled stuff is they're doin' to children, testin' for T.B. an' such? Seems tomfoolery to me. Me and you never had no such, did we?

MRS. HALL:

No, but maybe it won't hurt 'em to have a doctor look at 'em even if they ain't sick now. They says they's some kind o' thing to lissen to the insides with; they can hear th' heart beat and the lungs abreathin'. *(The baby awakens. Mrs. Hall goes to pick her up, as she continues):* Baby here had the croup, and I taken her in to see Dr. Black. He sez not to keep her too hot with s' many clothes, but I 'low a mother knows how to treat their own. I called it thrush and had that old lady Barlow come and blow in her mouth, the last time she had it. Well, I guess I better be goin'. Nick'll be home purty soon.

MRS. THOMAS *(weak and exhausted):*

Would you mind putting another wet rag on my head 'fore you go?

MRS. HALL *(complies with the request):*

You tell Will to let me know if there's anythin' you need. You know I can come over any time.

MRS. THOMAS:

I will.

(Exit Mrs. Hall.)

ACT II

Jane, a young girl of high school age, is dressing for a sorority dance, which she will attend with her escort and two other friends. The time is about fifteen years later.

MOTHER:

Jane, darling, you should be careful not to dance too much tonight. You know you have not fully recovered from the flu.

JANE:

O, Mother, please, do I have to obey the doctor for months just because I had a cold?

MOTHER:

Well, you know, dear, how Mother feels about colds. You know, too, you were in the room with that teacher, Miss Emily Thomas, whose

"OH, MOM, I'M SO THRILLED. TED ASKED ME TO GO TO GLENDALE TO THE FOOTBALL GAME. AND I WANT THAT SWANKY SPORT SUIT WE SAW SATURDAY."

mother died from tuberculosis when Miss Emily was a child, after giving it to her. And you know she carried it and gave it to many innocent little victims before she was examined. Thank heaven for school nurses and doctors who can check up on children now and give that skin test. They reach them before it is too late to save them or before they have infected some one else.

JANE *(hums a late tune, while looking in the mirror):*

Oh, Mom, I'm so thrilled. Ted has asked me to go to Glendale to the football game. And I want that swanky sport suit we saw Saturday. You know Ted is the ritz at these games; and I want all the girls to think I'm cute, don't you? *(She continues to inspect herself carefully, starts to hum again but stops suddenly.)* Mother, I've had a pain in my side since I had the flu.

MOTHER *(distressed):*

Why Jane, dear, why haven't you told me about this before?

JANE:

Oh, you and Daddy are so wedded to a prescription box. If I had mentioned it, you would have had Dr. Link over within an hour.

MOTHER:

But my dear, we want to watch your chest for any possible trouble. You know tuberculosis can easily be carried into your lungs if you are run down from colds.

JANE:

Well, Mother, Miss Thomas used to cough her way through class. How did she get into the schools if she had T.B.?

MOTHER:

That's just what the Parent-Teachers Association and the medical profession are trying hard to stop. As soon as any teacher shows a positive tuberculosis reaction, she should be put on a pension for teachers and sent away to get well. The sooner every one learns the value of early diagnosis and a complete rest for months to cure it or arrest it, the sooner we who call ourselves intelligent women may feel that we have rendered a real service to humanity. I am going to give a talk on just that subject at the P.T.A. next Friday. I am getting my information from our doctor, so I shall not be misleading my audience with "isms."

JANE:

Call it social-isms, mom, the more social they are when they have it, the more "isms" have it. *(She laughs, taps her mother on the nose, and then hugs her with considerable enthusiasm.)* You are a dear, Mom, always trying to look out for us. You even see that Dad keeps his ears washed!

MOTHER:

Silly!

JANE:

Oh, there they are—Ted, Alice and Jack. *(She snatches up her wrap, kisses her mother and runs out.)*

MOTHER:

Have a good time, darling!

ACT III

The scene is a light, cheerful hospital room or porch, to which flowers and books add attractiveness. The patient, Miss Emily Thomas, is talking to her nurse, who has entered with a thermometer, small tray and glass with cotton.

NURSE:

Good morning, Miss Thomas. How did you rest last night?

MISS THOMAS:

Just perfectly, thank you, Miss White. I had the most heavenly dream of being well and strong again.

NURSE:

Well, if you continue to obey the doctor's orders as you have been doing, you'll soon be ready to go home!

MISS THOMAS:

Imagine! I thought I was reading poetry to my classroom instead of teaching algebra.

NURSE *(puts thermometer in patient's mouth):*

Well, in a minute you must tell me about it. I'm feeling pretty romantic today myself; it looks as though my favorite suitor is going to

be up tomorrow for a visit. *(She pauses, then removes the thermometer and records the temperature.)*

MISS THOMAS:

So? Dinner on the roof, a full moon and love songs. Oh, I know how it goes, but I have romance enough in feeling the return of strength, even life itself, from day to day.

NURSE:

But the poem?

MISS THOMAS:

Oh, yes, remember that you asked for it. I think I shall call it "Life's New Day":

The hills in the distance, so azure blue,
Have entranced my fancy and hopes anew.
I dare now to dream of the tasks half through
As the moon sighs, "Patience alone will do."

Then sunshine and warmth and the shimmering dew—
And the pledge of health the soft rays renew.
I feel once again with the psalmist of old,
All life's beauties for me—for me—unfold.

How acid the dregs of the cup that bears
In its depths that bitterest draught of woes.
The one who must drink it, he scarcely shares
Word or thought or deed which compassion knows.

Alone in his terror, beset by gloom,
With a hopeless mien o'er his lot he pines.
His heart in its darkness a living tomb
Where no ray of joy or of sunlight shines.

The sound of forest music
The water song of streams
Grew all as dim and strange to me
As musings of old witchery
And vague as fitful dreams.

But now, in waking hours
Life is, I know, renewed.
With warmth like that of fields and flowers
My heart, confirmed in new found powers,
Glows warm with gratitude.

NURSE:

Well! Your mind has certainly recovered. You might even consider a new vocation, or at least poetry as a side line, I should say.

MISS THOMAS:

A new vocation, yes. But I think it will be here in these beautiful western hills with the doctors and nurses, rebuilding bodies, with a full knowledge of health education which I never had before. We must not fail in this undertaking, for we cannot afford to handicap the future; mine was handicapped because my parents did not realize the danger of tuberculosis. And it is my hope that the many young lives I may have infected in my classroom may be fortunate enough to find an angel of good like you, and such doctors as these, for it will mean that they too may be brought back to health and usefulness.

(Curtain)

TOOTH DECAY

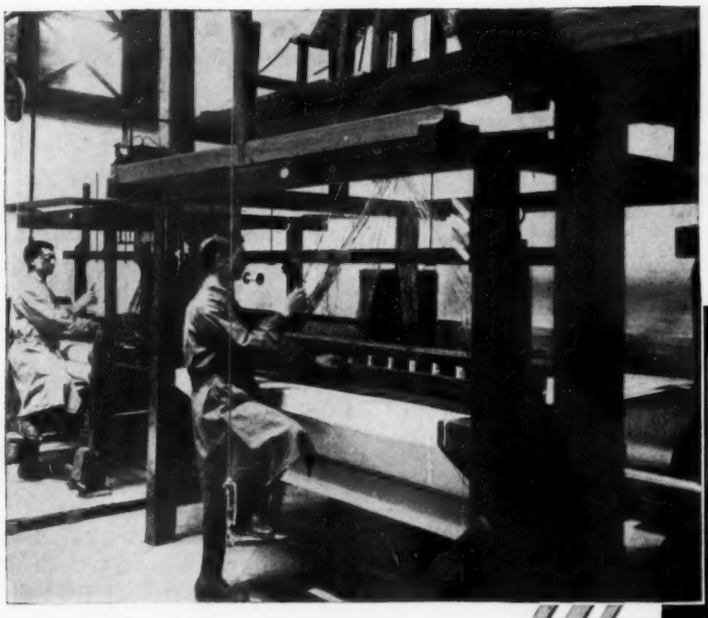
(Continued from page 329)

My own observation is that patients having a large amount of amalgam in their mouths are not as healthy as are those who have none, and they improve when the amalgam is replaced with gold. Factors other than mercury enter into that, for the amalgam fillings present will be of various ages, and caries will be found under many of them. I believe these buried areas of decay and infection are harmful to health.

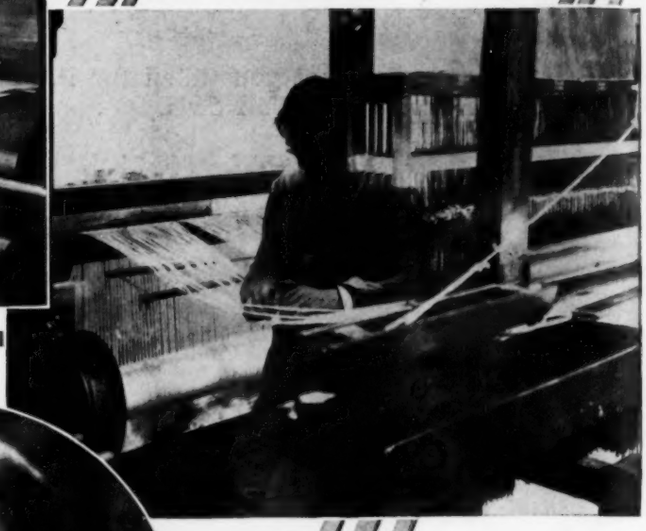
The amalgam filling is prone to discolor the tooth; hence the dark teeth at the back corners of so many smiles. If the cavity is prepared as carefully for amalgam as for gold, if the filling is as well condensed, as carefully carved for chewing relationships and as carefully polished, an amalgam filling takes almost as much of the dentist's time as a gold filling and falls far short of the virtues of gold. My greatest objection to amalgam is that it lends itself to slipshod hurry-up methods. It still is too often inserted in one large, soft lump, packed with the thumb and smoothed with a piece of cotton. Often I have seen the thumb-print of the careless dentist set in old amalgam! On the other hand I have seen conscientious amalgam fillings remain in place for twenty-five years, too long really for any filling to remain in a tooth, for sad surprises may lie under the best of fillings, ere that time.

The good old-fashioned gold filling is made of 24 karat gold foil, rolled into balls or pellets. When clean and dry, one piece will weld to another without heating. The gold foil is passed through the flame not to heat it but to drive off moisture and fumes which would prevent it from welding. The fire also anneals it and makes it harder in the finished filling. The gold foil does not adhere to the cavity as cement does. Like amalgam it is introduced in small pieces, joined together in the cavity; the cavity is so shaped that the joined mass cannot get out. Gold foil does not adhere to the tooth, but it does seal the cavity! *(Continued on page 376)*

A Naples Miracle



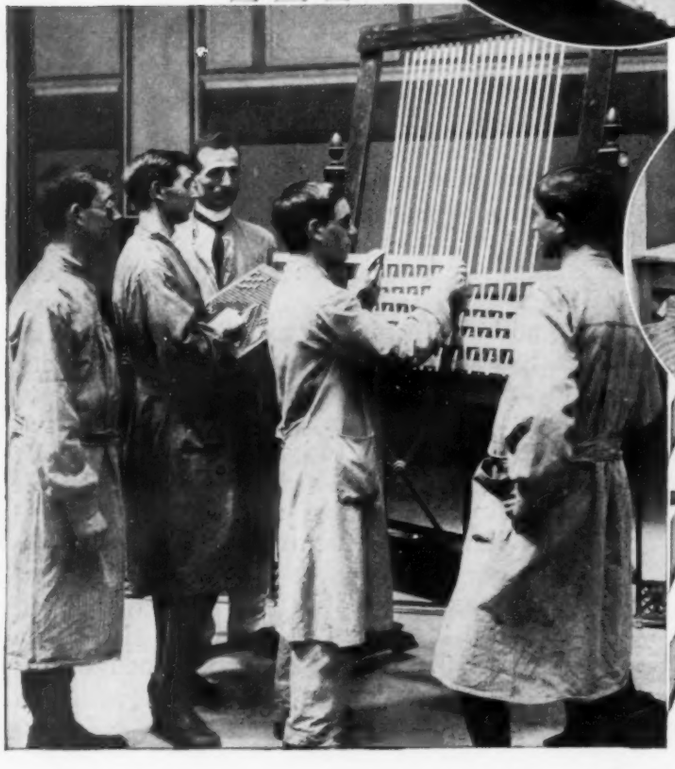
AMONG THE VARIOUS CRAFTS LEARNED BY THE BLIND IS THE WEAVING OF DAMASK, AND LOVELY ARE THE PATTERNS THAT COME FROM THESE LOOMS.

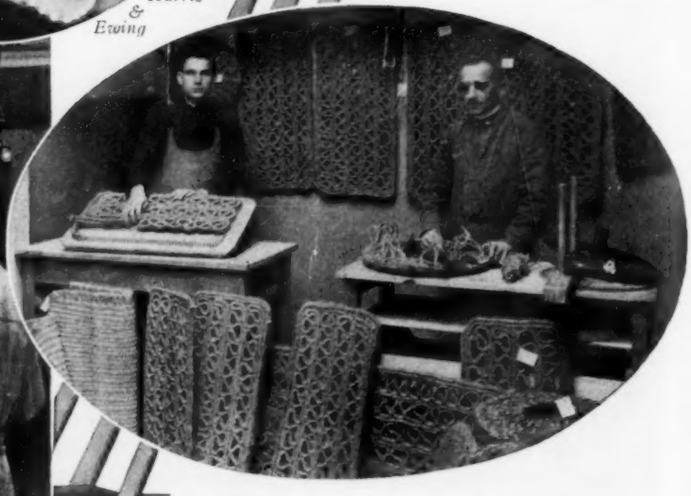


DONNA TOMMASINA COLOSIMO FOUNDED THE PAOLO COLOSIMO INDUSTRIAL SCHOOL OF REEDUCATION FOR THE BLIND.

Harris & Ewing

WITH SKILL AND PRECISION, THE SENSITIVE FINGERS FIND AND MEND THE BROKEN THREADS.





THE FIRST STEP IN GETTING THE FINGERS NIMBLE FOR WEAVING IS THE MAKING OF THE BASKETS AND MATS SHOWN ABOVE.

NIMBLE FINGERS AND ACQUISITIVE MINDS QUICKLY GRASP THE LESSON IN DESIGN AS THE CRAFTSMEN SHOWN TO THE LEFT MASTER THE DETAILS OF THE NEW PATTERN.

Reeducation of the Blind

By

MARY E. RAIOLA

EXCEPT for my contacts with blinded soldiers while I was a nurse in Europe during the World War, I had had no experience with work for the blind when I decided to turn the depression to the account of the Paolo Colosimo Industrial School of Reeducation for the Blind at Naples, Italy.

For I had had an idea. What better use could one make of the palatial Italian liners, which had been laid down during the inflation and which were now making their maiden voyages, than to employ deck or saloon space for the purpose of familiarizing the transatlantic public with the sensational achievements of certain Naples looms adapted especially for and handled by blind weavers?

Donna Tommasina Colosimo, president of the institute, approved. Commendatore Pericles Roseo, the director of the Colosimo Institute from its foundation, assured me of his cooperation. The weavers were much thrilled. The Italian government acquiesced readily. Il Duce is one of the originators of the Mussolini-Corbino bill, which gave the Colosimo Institute its autonomy in 1924.

I quickly received official port authority to board all Italian passenger ships during their stay in port in order to carry out my new mission. The Italian example was endorsed and followed by practically every foreign line touching at Naples, and the American ship staffs and crews cooperated with remarkable generosity.

By the end of the first year, the blind of the Paolo Colosimo Institute were almost as much of an attraction at Naples as the city's famous museum. For as I would unfold and arrange my exhibits on board these transatlantic steamers, passengers who were accustomed to the loveliest linens in Paris, London or New York shops would stop to exclaim over patterns whose originality and beauty arrested them. They would pause to handle the materials. There were silken brocades and damasks with designs copied from famous museum pieces, and there were peasant linens as well. Then they would glance up at the big printed cards which stated that these were all executed by the blind of the Paolo Colosimo Institute. The passengers would approach me and ask, "But the blind don't really make these, do they?"

Often, if they had leisure, their interest went as far as a trip to the institute, which is located in the ancient Carmelite convent near the National Museum. Here they found the blind, under the devoted care and guidance of the Alcantarini Sisters, working with such confidence and faith in themselves that the visitors were invariably filled with admiration and declared that the institute was the most inspiring sight they had seen in Naples.

It was especially interesting to have the comment of a director in one of the large reeducational institutions in the United States, who selected some of the brocades to take back with him to show to his associates. "We cannot approach this sort of thing," he said with intense regret and hearty admiration. "We haven't the environment."

He had visited the Paolo Colosimo Institute and, being a weaver himself, had been able to appraise the work of reeducation which this product represented. And he had hit on the factor that has made possible such a unique success. Clearly, this factor is environment.

Something of the spirit of the ancient guilds is felt, I think, as one steps from the noisy

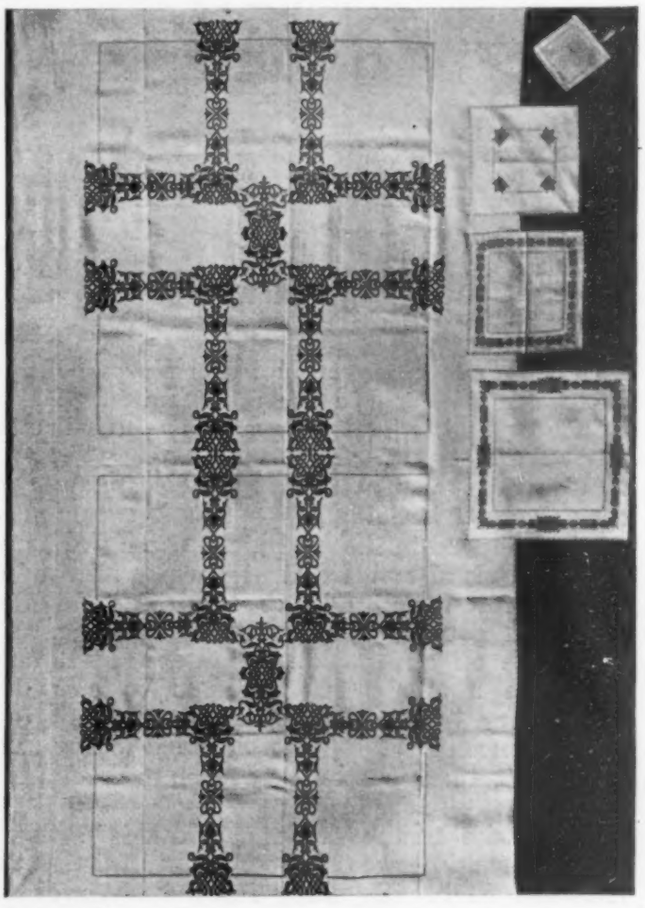
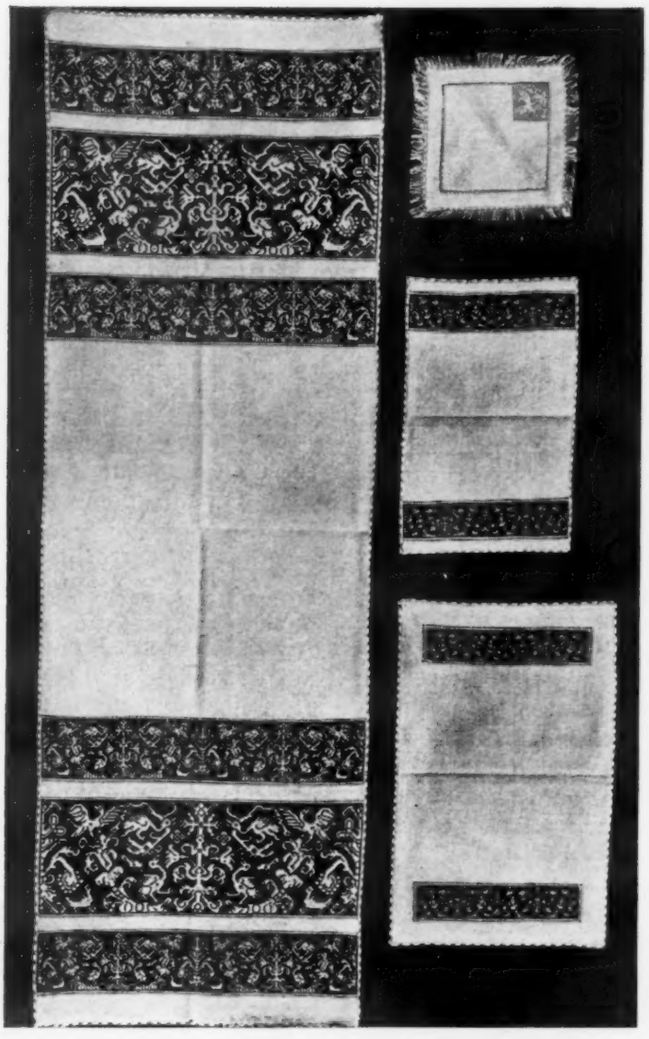


TABLE LINENS WOVEN BY A BLIND ARTISAN REPRODUCE A DESIGN CREATED BY LEONARDO da VINCI FOR BEATRICE d'ESTE.



THIS LUNCHEON SET OWES ITS BEAUTY AND DISTINCTION TO THE FAITHFUL REPRODUCTION OF A MAGNIFICENT DESIGN CREATED CENTURIES AGO BY RAPHAEL FOR LUCREZIA BORGIA.

street into these peaceful workshops, exposition rooms and the vast orange garden that gives the building in the midst of the city such an abundant amount of light and air.

The premises currently hospitalize 200 patients but have space for many more. There is a long waiting list of persons who wish to enter the school.

In order to provide for more students a special effort is being made to sell the handiwork produced in the institute. These products are all kinds of handicraft with which industrial schools for the blind are familiar, and the four year course, which is usually sufficient to reeducate an adventitiously blinded adult and give him a means of livelihood, is also the elementary training necessary to develop the tactile sense of the blind children who are also taught here and who quickly learn to do charming things in basketry.

As to the tactile sense developed in those skilled men who weave these wonderful tissues, it is almost breath-taking for the observer to watch the blind weaver at his work. A little bell may ring to warn him of a broken thread; then deftly the sensitive fingers go over the work, locate the thread and knot it. A weaver may ask his neighboring worker to pass the green silk, and unerringly the blind craftsman's hand goes to the correct spool, without pause in his work or interruption of his own conversation.

Many of these adventitiously blinded men bring skilled minds to this reorientation of their faculties. One of them resourcefully invented and patented a typewriter for the blind. Being for the most part Italian, though there is distinction of neither race nor creed in the institute, the adult students have usually a familiarity with art periods and their styles which would be exceptional in such groups elsewhere. Thus they are able to bring individual ideas to the choosing of their patterns; sometimes they can suggest designs with which they were familiar before becoming blind.

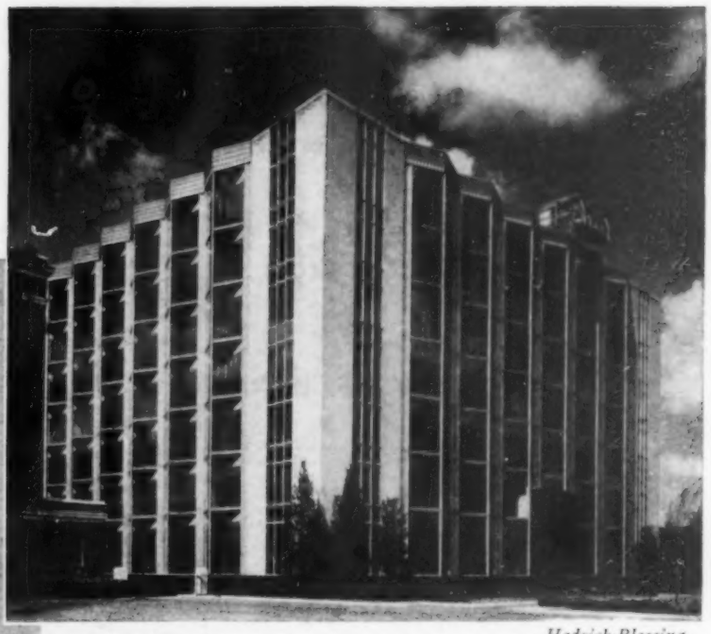
The influence of the director, Commendatore Pericles Roseo, himself an artist, has created the atmosphere with which the men are surrounded and which brings out every latent aptitude or talent. He procures designs for them from long cherished heirlooms in museums and gives out the colors. Each graduated artisan eventually has his own specialty; there is some one pattern of which he is the exclusive proprietor.

This is one reason why the institute has so much the appearance of a fraternal guild and none of the aspect of institutions of charity. This environment turns out artisans who learn to make rare and interesting articles which are of commercial value and which are their own specialities.

When American visitors to the institute see the great proscenium curtain in the auditorium, the tapestried chapel and the director's room, they are astounded that the men themselves have decorated their home, happy in the knowledge that they have contributed beauty to the premises where they have made friends and have found their places in society. The creation of this great foundation has come from the self dedication of one woman, Donna Tommasina Colosimo. She is not a woman of wealth, and is not even a woman who had suffered personally from the tragic darkening of life in her dear ones. She is just an Italian mother who by a cruel mischance lost a brilliant son at the outset of his career; and she turned the floodgates of her personal bereavement into an indefatigable energy that knew no pause until, in the name of Paolo Colosimo, her self appointed task was finished.

The mutilated lives of men blinded in the war may go into that gently attended repair shop and come away from it readjusted, with skilled aptitudes that give them technocratic equality with the lives of men who see.

Truly, Naples is the home of miracles.



Hedrich-Blessing

WORKERS IN THIS BUILDING WILL GET PLENTY OF DAYLIGHT. EXTERIOR VIEW OF A MODERN OFFICE BUILDING WHICH COMBINES THE PRACTICAL AND THE BEAUTIFUL. IN ADDITION TO ITS SYMMETRY AND BEAUTY OF DESIGN, IT AFFORDS EXCELLENT FACILITIES FOR LIGHT BY THE HUNDREDS OF WINDOWS ON ALL SIDES.

Century

WHO'S AFRAID OF BIG BAD AMMONIA FUMES? TWO LOS ANGELES FIREMEN DESCEND INTO AN AMMONIUM SULPHATE FILLED CELLAR, TO TEST NEW GAS-PROOF SUITS WHICH ENDURED THE CORRODING FUMES FOR ONE-HALF HOUR.

Acme

ANCHORS AWEIGH! THIS CREW OF JUNIOR HIGH SCHOOL MISSES IS LEARNING TO BATTLE THE BRINE AS PART OF THEIR ATHLETIC TRAINING AT MARINE STADIUM, LONG BEACH, CALIF. ALL STUDENTS ARE ELIGIBLE.

Century

A RAISED WHITE WALKING STICK IS A STOP SIGNAL FOR MOTORISTS IN RIO DE JANEIRO, FOR THEY KNOW THESE STICKS HAVE BEEN GIVEN TO THE BLIND TO AID THEM IN GETTING ACROSS THE STREETS SAFELY.

William Henry Welch

By LEWELLYS F. BARKER

DR. WILLIAM HENRY WELCH, a leading pathologist and bacteriologist in this country, a renowned medical educator, and one-time President of the American Medical Association, died in Baltimore last spring at the age of 84 after half a century of distinguished service in the medical profession. During his lifetime, Dr. Welch was an ardent advocate of research in the medical sciences, a great statesman in the field of public health and the first director of what is to be a real institute of the history of medicine.

Born in Norfolk, Conn., April 8, 1850, he was the son of William Wickham and Emeline Collin Welch. He came of a medical family. His father, one grandfather, one great-grandfather and four of his uncles were physicians; it may well be assumed that the constitutional predisposition to a medical career lay in the germ-plasm that he inherited. His nephew Senator F. C. Walcott, a son of a sister of Dr. Welch, has told something of the simplicity of his boyhood life, of the patience, persistence and courage of the family from which he came and of his love of outdoor exercise, especially of walking and swimming.

A brilliant student, William Henry Welch received his baccalaureate degree at Yale at the age of 20, standing third in a class numbering over 100. After graduation, he taught Latin and Greek for a time but soon decided to study medicine. This was just before Lister's triumphs in antiseptic surgery and before the studies of Pasteur and Koch on infectious germs. Dr. Welch showed good judgment by starting early with chemical courses at the Sheffield Scientific School at Yale, and he graduated in medicine at the College of Physicians and Surgeons of New York in 1875, winning during his course the Seguin prize, a microscope. He always spoke with great appreciation of the inspiration he received from his teachers in the medical school and mentioned especially Alonzo Clark, Sands, Sabine, Dalton, Delafield and T. Gaillard Thomas.

After a year's internship in Bellevue Hospital, he went with his intimate friend, Dr. F. S. Dennis, to Germany for postgraduate studies, spending two years in the universities of Strassburg, Leipzig, Breslau and Berlin. There he came under influences that were decisive in directing his energies toward a career in pathology, and the special training that he received fitted him admirably for it. Thus in Strassburg he studied histology under Waldeyer, physiologic chemistry under Hoppe-Seyler and pathology under von Recklinghausen. In Leipzig he studied histology, internal medicine and pathologic anatomy. Though his plan had been to prepare for work under Virchow in Berlin, Ludwig, who saw the trend away from study of form in pathology toward the study of function and toward experimental research, advised him to go to Breslau to work under the great pathologist Cohnheim. This he did in the summer of 1877, and the experience was of marked

Henry Miller Photo

APRIL BRINGS COMMEMORATION OF THE BIRTH, APRIL 8, 1850, OF DR. WILLIAM HENRY WELCH, BACTERIOLOGIST, PATHOLOGIST AND MEDICAL EDUCATOR, AND OF HIS DEATH, APRIL 30, 1934, AFTER HALF A CENTURY OF DISTINGUISHED SERVICE IN THE MEDICAL WORLD.

significance for his subsequent career. Weigert, who did much to develop the technic of microscopic work, was there making autopsies. Ehrlich, who later threw great light on diseases of the blood, was at work there also, experimenting with staining methods. Salomensen, the pathologist of Copenhagen, was a student in Breslau at the same time, and he and Welch became fast friends. The young American was taken into the inner circle of workers and was a welcome member of their social gatherings, picnics and scientific meetings. Above all, Cohnheim took a great fancy to him and assigned to him experimental work on the problem of acute edema of the lungs, which Welch, to Cohnheim's surprise, showed to be dependent largely on mechanical factors. At about the same time, Koch visited Breslau and told of his studies of anthrax in animals. A little later, Welch worked for a few months in Vienna, and he also made short visits to Prague, Würzburg, Paris and London. Thus during his two years in Europe he became acquainted with an extraordinary group of men who profoundly influenced the development of medicine and especially the development of pathology and bacteriology in the years that followed. It was the time when "pathology furnished the master key for the advancement of medical education by the introduction of the laboratory." I have heard him say more than once that the training and the inspiration he got in Germany and especially his contacts with the remarkable group with which he was associated in Breslau were largely responsible for any success that came to him in later life.

On his return to New York in 1878, full of enthusiasm at the dawn of the new era, he was invited by Professor Delafield to assist him in the teaching of pathology in his alma mater, the College of Physicians and Surgeons. However, as no laboratory facilities could be provided there, he accepted instead an offer to teach and to supervise a small three room laboratory at Bellevue Hospital Medical College, where he continued as professor of pathologic anatomy and general pathology from 1879 to 1884. Henry Fairfield Osborn, who later became a distinguished biologist, was one of the first to pursue studies in this little laboratory, and other ardent students soon joined the enthusiastic small group there. To help earn a living he did a little private practice, served as demonstrator in anatomy, rewrote the section on pathology in Austin Flint's textbook of medicine, and acted as "quiz" master with Goldthwait for three or four years, though both men gave this up later as they were convinced that it was harmful to both students and teachers.

During the six years after his return to New York he had become recognized gradually as the leader in pathologic work in this country and had attracted ever younger men to work under him; among these were Walter James, George Tuttle, John Thacher, Koplik and Woolsey. Meanwhile, his great friend Prudden took up the work in pathology at the College of Physicians and Surgeons, so that he and Welch must always be remembered as the pioneers in modern pathologic work in New York City.

Then Dr. Welch's greatest opportunity came to him. On the advice of Cohnheim of Breslau and of John S. Billings of Washington, who had visited Bellevue to listen to Dr. Welch as he taught, President Gilman of Johns Hopkins University offered him the professorship of pathology in the university in Baltimore; and the trustees of the Johns Hopkins Hospital, which was then under construction, made him pathologist-in-chief to the hospital. He was attracted by the possibilities of the development there of a pathologic institute and staff of the type he had seen in action in Germany. Many of his friends in New York advised against acceptance; they could not understand a preference for Baltimore when New York still wanted him, and it is reported that one of them said to him after he had decided to go, "Well, good-by. You may in Baltimore become a connoisseur of terrapin and Madeira, but as a pathologist, good-by!" As A. J. Shriver, commenting on this episode has said, "The positive prophecy was wonderfully fulfilled, but the negative one was gloriously falsified!"

Recognizing the trend of medical studies in Europe toward inquiries into the causes of disease and realizing the great importance of their results for any proper understanding of the changes in the organs and tissues in disease, Dr. Welch arranged, after accepting the Johns Hopkins appointment, for a period of further work in Europe. On Koch's advice he studied bacteriologic technic with Frobenius in Munich in the autumn of 1884, doing some work also in animal pathology in the veterinary school and in hygiene in Pettenkoffer's institute. Early in 1885, again on the advice of Koch, he engaged in most profitable studies of bacteriology and hygiene under Flügge in Göttingen; and finally, he had some training in Berlin directly under Koch himself, who just at that time was making special studies of the bacillus of Asiatic cholera. Before he returned to America, he went to France and visited the Pasteur Institute. Dr. Welch liked to recount the great courtesy of Pasteur, who put aside his test tubes and showed him around his laboratory; he always spoke with pleasure, too, of his associations with Roux, Calmette, Metchnikoff and other members of that delightful group in Paris. In Munich, Göttingen and Berlin, Dr. Welch had found himself in companionship with other eager young investigators from different parts of Europe, and the acquaintances and friend-

ships formed then account in no small part for the esteem for him personally and for the continued recognition of his work by European leaders in pathology, bacteriology and hygiene.

On his return to Baltimore in the autumn of 1885, Dr. Welch quickly set to work, first in Newell Martin's biologic laboratory at the Johns Hopkins University and, a little later, on the grounds of the Johns Hopkins Hospital, in a building which was designed to be merely a dead-house but which was quickly changed into a small laboratory for work in pathology and bacteriology. There he was joined by Dr. W. T. Councilman, who later became professor of pathology at Harvard. Councilman was an enthusiastic pathologist, who in those early days transported viscera several miles in pails by tricycle from autopsies made at Bayview Asylum! Other advanced students who were attracted early either as workers or auditors to the new laboratory included Nuttall, Abbott, Booker, Bolton and Clement; a little later, Lafleur, Thayer, Finney and Flexner joined the group and still later, Bloodgood, Carter, Livingood, Howard, Futcher, McCrae, Camac and Blumer. The first fellow in pathology was F. P. Mall, who later became a distinguished professor of anatomy; he immediately showed great talent as an original investigator, studying the digestive effects of certain bacteria on connective tissues; and in the course of these studies he discovered reticulum, a form of connective tissue not before known. At about the same time, William S. Halsted began his experimental work in Welch's laboratory on intestinal suture and on the thyroid gland; he afterward became professor of surgery at Johns Hopkins.

Active work had been going on in this pathologic laboratory for about four years before the opening of the Johns Hopkins Hospital. The chiefs of the clinical staffs in medicine and surgery, Osler and Halsted, were selected by President Gilman and Dr. Billings largely on the advice of Dr. Welch; and Dr. Osler secured the appointment in gynecology for Dr. Kelly. In addition to their clinical work, the men on the resident staffs of the hospital studied in Dr. Welch's laboratory. Among them were Lafleur, Thayer, Baltzell and Robb. After a course in the laboratory, Simon Flexner was made fellow in pathology; and that was the beginning of a distinguished career. An amusing cartoon of the early workers, made by Max Brodel when Dr. Welch was 60 years old and designated "Some Welch Rabbits," will doubtless go down in medical history as an interesting historical document. Walter Reed and Carroll and Lazear of the commission that proved that yellow fever is transmitted by a special mosquito, Stegomyia, were all students of Dr. Welch.

One ludicrous incident of those early times is perhaps worthy of recall. Dr. Welch had become greatly interested in the study of hog cholera, scattered cases of which were reported in Maryland. Learning of the probable existence of the disease on the eastern shore of Chesapeake Bay, he and the veterinarian Clement went there, hoping to be able to make a postmortem examination of one of the dead animals. To their disappointment all the dead hogs had been buried for several days. Though the weather was extremely hot, Dr. Welch insisted that one hog should be dug up, as he wished to see whether characteristic buttons were visible on the lining of the intestine, which would be the case if the disease were in reality hog cholera. The Negroes who exhumed the body stood aside while Dr. Welch in his fastidious way performed an autopsy on the animal that "stank to heaven." Imagine Welch's surprise and Clement's glee when one old "darky," holding his nose, was overheard to say, "My Gawd, man, ain't it terrible what some men will do for money!"

When the Johns Hopkins Medical School was opened in 1893, Dr. Welch and his colleagues insisted on admission requirements in physics, chemistry, biology and modern languages, and on methods and standards of work during the four years of the course that for the first time placed an American medical school on at least as high a level as that of the best medical schools in Europe. Mall taught anatomy,

Some Welch rabbits

A CARTOON OF DR. WELCH AND SOME OF HIS CO-WORKERS WAS DISTRIBUTED AT A DINNER IN HONOR OF HIS ELECTION AS PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION, 1910.

Howell physiology, Abel pharmacology and Jones physiologic chemistry. Dr. Welch was, of course, the first dean of the medical school. He acted in that capacity for five years, and as Flexner has said, he guided the policy of the new institution into the productive channels that have so eminently distinguished it. He was from the outset the central figure and the directing genius of the whole group. The new medical school, with its emphasis on practical work in the laboratories and wards, with its opportunities for close personal association with master minds and with its enthusiasm for research, contrasted markedly with the sterile didacticism of an earlier period.

As Camac, recalling those early days, has pointed out, those in charge knew how to create an atmosphere and an environment conducive to the best work; and the purpose of the teachers was to make their students discover their own internal resources. At the beginning, everything was kept extremely simple in the new medical school. Each person knew every one else intimately. Every one was interested in what was going on in the wards of the hospital and in the laboratories of the school. The medical society, the historical society and the journal club met regularly and were well attended. Welch admired Osler, and Osler admired Welch; and these two treated the younger men as their friends and almost as though they were their equals. Those days are remembered by all participants as very happy ones. Of the members of the first graduating class of the Johns Hopkins Medical School, about a dozen in all, nearly every one has made a mark. That class included W. G. MacCallum, now professor of pathology at Johns Hopkins, and E. L. Opie, now professor of pathology at Cornell Medical School in New York. It also included three young women, but one of these dropped out in her third year because she became a Christian scientist, largely, she told Welch, because of the influence of Osler who, she thought, must in reality be a Christian scientist!

Dr. Welch had ever at heart a strong desire to improve medical education. He rejoiced in the report on "Medical Education in the United States and Canada," which was made in 1910 by Abraham Flexner to the Carnegie Foundation for the Advancement of Teaching. The introduction in 1914 of the so-called full-time system for the leading clinic teachers in the Johns Hopkins Medical School was a development attributable largely to the influence of Welch and Mall in the medical faculty. Under this system the professors did not undertake any private practice. Though its instigators saw both advantages and disadvantages in such a system, they felt that the advantages outweighed the disadvantages, and they decided to give it a trial, even if the plan as originally conceived had to be modified from time to time in the light of the experience gained.

In 1916, at the age of 66, Dr. Welch resigned his chair of pathology and bacteriology. During the next ten years he acted as director of the newly established Johns Hopkins School of Hygiene and Public Health, devoting himself to cultivation of the field of public health education. He spoke of this as "a unique opportunity because it was a novel experiment, not being a mere institute or laboratory but creating an entire faculty of hygiene." He had been made president of the Maryland state board of health as early as 1898 and continued to hold that office for a quarter of a century. In the new and liberally endowed school of hygiene he brought together as heads of departments a group of leaders of outstanding influence, including W. H. Frost, Raymond Pearl, A. W. Freeman, and E. V. McCollum. At a special dedication meeting of this school of hygiene in 1926 an admirable address was made by the distinguished British hygienist Sir Andrew Balfour. When, after ten years as director of the school of hygiene, Dr. Welch retired, he was succeeded by Dr. William H. Howell, who had been for many years the professor of physiology in the medical school.

In 1926, at the age of 76, Dr. Welch became professor of the history of medicine, a chair that had been endowed by the General Education Board on the recommendation of Mr. Abraham Flexner. Dr. Welch rejoiced at the opportunity to lay emphasis on "medical humanism," for he believed that it can be a distinct asset to a physician, can make him a better doctor and can increase his influence not only in the profession but also in the community. This department, in which scholarly work was to be provided for, was later given quarters in the beautiful William H. Welch Medical Library, which houses the collections of books formerly in the libraries of the school of medicine, the school of hygiene and public health, and the Johns Hopkins Hospital. The General Education Board and an anonymous donor financed the construction, which was supervised by Dr. Lewis H. Weed. The dedication of this library and the formal inauguration of the department of the history of medicine took place in October, 1929, with the learned German medical historian Professor Karl Sudhoff of Leipzig as one of the guest speakers. Though nearly 80 years of age, Dr. Welch asked his friends "not to be too severe on him for being still in academic harness," but he desired to do a little last work in stressing the humanistic side of medicine, which needs cultivation as well as the purely scientific aspects. Dr. Welch became emeritus professor in 1931, the active professorship being given, on his nomination, to Dr. Henry E. Sigerist, who is the present incumbent. *(Continued on page 357)*

Medicine in Ancient

FROM THE time of the Spanish conquest the medicinal plants of Yucatan have attracted the attention of Europeans who have come to this country. In the sixteenth century the Spanish settlers and missionaries wrote accounts of the native medical lore, some of which has come down to us in "Relaciones de Yucatan":

> There are, in the land, great quantities of medicinal plants, of various properties; and if there were here any person who possessed a knowledge of them, it would be most useful and effective. There is no disease to which the Indians do not apply the plants. But when asked for an account of their properties they can give no other than that they are hot or cold. There are many plants that are of great virtue for every sort of illness and as antidotes; on the other hand there are those that are deadly and poisonous.

Today such a conception of medicine seems more sensible than many of the European documents written at that time. Mayan medicine at least was not hampered by the theories of humors and distempers which so long continued to be the basis of European medical science.

Yucatan, the home of the Mayan tribe of Indians, is the only part of America that produced medical literature written by the Indians in their native tongue. The Mayas believed that medicine was effective only when used in connection with religious ceremony. They have held to this belief in spite of all Christian influence, merely substituting their patron saint for the old idols, offering prayer and burning a candle, instead of offering a sacrifice and burning copal, native incense, when a cure was undertaken.

The tribal medicine man was called a shaman. He was both spiritual and medical adviser to his people. To become a shaman, a young man applied to an elderly practitioner, who felt his pulse to determine whether he was strong enough to practice this art. If he were not, the knowledge that a shaman must acquire would drive him insane. For twenty years he was required to practice celibacy. After this apprenticeship, he was allowed to marry. He was to respond to calls at all times. He was paid only when he effected a cure, and his pay was determined by the length of time required for treatment.

WHEN he was called to the home to cure illness, he first asked permission of the household god. The shaman was required to drink during the entire treatment. Under such stimulation he was better able to combat the evil

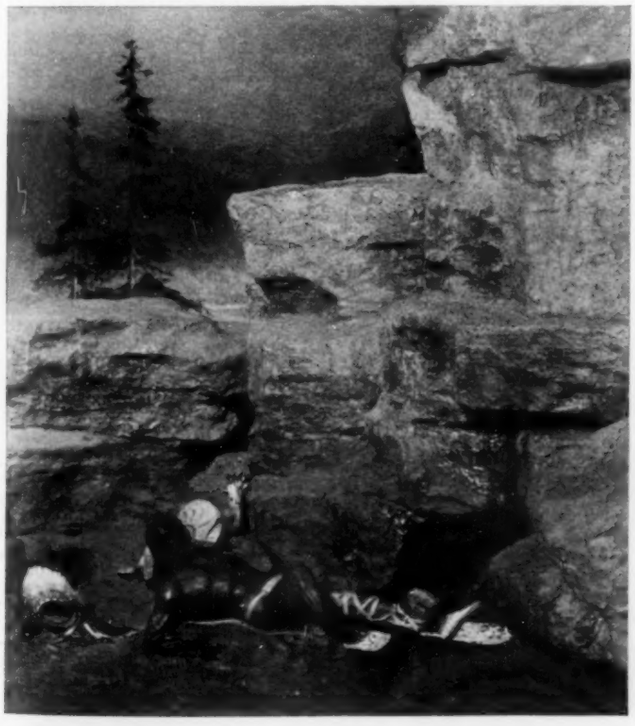
THE TRIBAL MEDICINE MAN, WHO WAS CALLED A SHAMAN, WAS BOTH SPIRITUAL AND A SHAMAN, A YOUNG MAN APPLIED TO AN ELDERLY PRACTITIONER, WHO FELT HIS PULSE TO PRACTICE HIS ART. ANOTHER SPECIALIST WAS THE BONE BINDER, WHO CURED FRACTURES. SOME OF HIS METHODS WERE FORERUNNERS OF MODERN SURGICAL PROCEDURE, FAITH MUST OF HIS PATIENTS, FOR THE TREATMENT WAS NECESSARILY CRUDE AND UNSKILLED.

America

By BILLIE TEEL METTEL

spirit causing the disorder, and a demijohn of the fiery native "balche" had to be presented to him before the treatment was begun. When gathering herbs for medicine, the shaman went into the forest alone, carrying balche in his canteen instead of water. The shaman believed in curing like with like. An eruption resembling the sting of a wasp was treated with crushed wasps' nests. Certain vines which seemed to resemble snakes were considered a cure for snake bites. Yellow plants were given for jaundice and biliousness, and red plants and fruit were considered efficacious for diseases characterized by dysentery and the vomiting of blood.

THE literal translation of "asthma" in the Mayan language is "false breath." The fat of a black hen mixed with sugar was given for its relief. Red peppers, salt and strongly astringent leaves of the mimosa tree were steeped together for use as a throat swab. If these failed to take effect, the patient smoked a cigar of black tobacco into which chili peppers had been inserted. Squinting was considered a mark of beauty, and small objects were suspended from the hair of infants to dangle between the eyes in an effort to produce strabismus. The faces of young boys were scalded to prevent the growth of beards.



MEDICAL ADVISER TO HIS PEOPLE. TO BECOME TO DETERMINE WHETHER HE WAS STRONG ENOUGH SPRAINS, DISLOCATIONS AND CONTUSIONS. ALTHOUGH HAVE PLAYED A STRONG PART IN THE RECOVERY (PHOTOGRAPH COURTESY OF UNIVERSITY OF CHICAGO.)

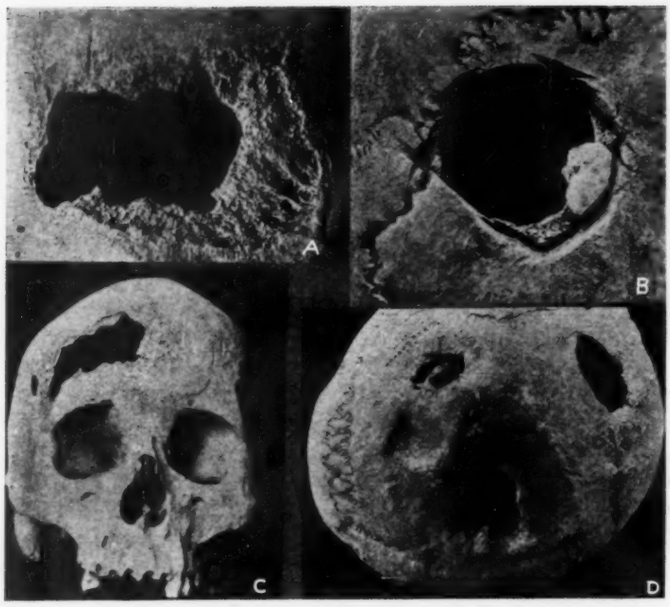
The shaman seemed to have had an amazing anticipation of modern gland therapy in cases in which a nerve stimulant was required. For fainting he prescribed the shredded testicles of a cockerel in wine. For epilepsy the same dosage was given.

Ordinary headaches were relieved by placing two plantain leaves coated with tallow on the temples. When they fell off, the headache was considered cured. More serious headaches were discouraged by piercing the forehead or neck with the barbed end of a porcupine quill. The quill was left in place until it fell out or festered out. In the native market places, victims of headache can still be seen with dangling quills in place, presumably working their magic.

BLOOD letting was a popular procedure. A splinter of obsidian, or volcanic glass, was fastened to a flexible bird bone. A flip of the shaman's finger made the desired incision; and after the bad blood was withdrawn, an astringent herb was used to stop the flow of blood. If the shaman lanced a vein, he drew the blood by sucking through a cup made from a coconut with a hole in the bottom.

The treatment of smallpox, a disease introduced by the white man, was to place the sufferer in an airproof tent under which a pit had been dug and lined with stones heated to a high enough temperature to produce steam when water was thrown on the stones. The patient was given the equivalent of a Turkish bath, which may account for the high mortality rate from this disease among the Indians.

A parallel to the modern maggot treatment of osteomyelitis may be seen in the shaman's treatment of tumors which were so advanced as to disorganize tissue and threaten general septicemia. The native theory was that a mysterious worm was burrowing into the flesh. The treatment was wholly magic but therapeutic in procedure. First a scalpel of obsidian was made, and with incantations the tumor was removed. A piece of wood carved to represent a worm was placed in the incision and ceremoniously removed. The wound was sprayed with an infusion of red willow bark, which had a strong antiseptic quality. The bandage was dusted with copal powder made from the gum of a native tree and possessing healing properties. The Mayas believed that the red infusion represented healthy blood and the copal powder an offering to the worm.



TREPHINING, ONE OF THE BOLDEST PERFORMANCES OF MODERN SURGERY, WAS DONE HABITUALLY AND SUCCESSFULLY IN PREHISTORIC DAYS. THE EXTENT OF A TREPHINED OPENING (A); THE LOCATION (C); AN INCOMPLETE TREPHINING (B), DURING WHICH THE PATIENT DIED ON THE OPERATING TABLE; AND AN EXAMPLE OF FOUR TREPHININGS IN ONE SKULL (D) ARE SHOWN TO THE LEFT.

THE INSTRUMENTS USED IN TREPHINING WERE MADE OF STONE AND FLINT. NO TOOL MADE OF METAL COULD HAVE PRODUCED SUCH ABRASIONS. (PHOTOGRAPHS FROM THE ANNALS OF MEDICAL HISTORY.)

From the many procedures used, it is evident that there was little skill in obstetrics. The midwife was the specialist in this field. She predicted the day of the birth and threatened to refuse to take the case if the child was not born at the indicated time. At the beginning of labor the woman was kept moving so that the fetus would not become twisted. Her abdomen was massaged with hot oil, and she was given a calabash pipe into which she was instructed to blow with all her strength. She was made to inhale acrid smoke to produce coughing and straining. A wide band was placed about the abdomen and was gradually tightened. A vaginal suppository filled with parsley was used for breech presentation. This is unmistakable evidence of knowledge of the pharmacologic action of apiol, the active principle of parsley. It is thought they practiced episiotomy. To hasten delivery of the placenta, the patient was given a heated drink of wine, bees' nests and honey.

ANOTHER specialist was the bone binder, who cured fractures, sprains, dislocations and contusions. He bandaged the part, and massaged and poulticed the injury with Ruellia albicaulis, which has been used in this manner for centuries.

The world is also indebted to the Indian for cascara sagrada, quinine, ipecac, sarsaparilla and cocaine.

The Aztecs recognized the contagion of disease. Those who were seriously ill were isolated; they were provided with food and water and were left to recover or to die.

Farther south in Peru the Incas lived, not because of their surgical practices but in spite of them. It is estimated that 2.5 per cent of these people submitted to trephining. Trephining is one of the boldest performances of modern surgery; yet remarkable as is the present achievement, it pales before the marvel of primitive trephining. It has been proved by indisputable evidence that it was performed habitually and successfully in prehistoric times. Skulls showing unmistakable healing with as many as five operations have been found to disprove the theory that trephining was performed only after death. The instruments were of stone and flint. No metal tool could have produced such abrasions. No artificial plates were placed in the aperture nor were stitches taken in the scalp. It is possible that the patients were under the influence of cocaine. The coca plant, from which cocaine is derived, is native to Peru, and the Indian practice of chewing the coca leaves produces, in a mild form, the same effect as does the modern drug. These people were the first to use an anesthetic in connection with surgery.

THE reason for such wholesale trephining has never been found. However, the evidence suggests that it was done first for mystical or religious reasons, after which the therapeutic value was discovered. It is undoubtedly the oldest form of surgery practiced today.

Trephining may be considered the genetic tree of surgery. The history of trephining represents the history of surgery, the beginnings of which were practiced on the dead, for unknown or mystical reasons. Later the therapeutic value of these acts was discovered; and today the same acts in a perfected form are performed for the prolongation of life.

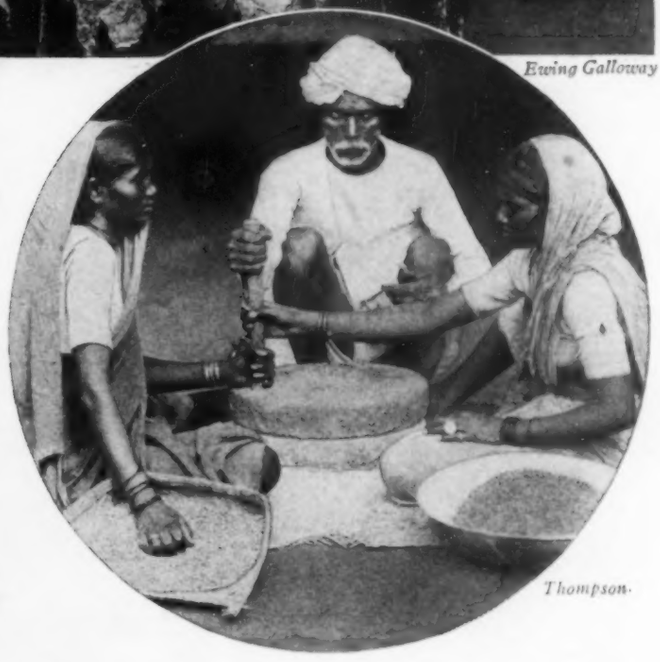
The ancient medicine man was respected above all others in his community. His dwelling was in the temple, his dress was distinctive, and no dose of medicine was administered without accompanying prayers. Faith in their shaman and gods must have played a strong part in the recovery of these people from such unskilled treatment.

Dried Beef. In a country where there is no ice, Brazilians use salt and sun as preservatives. Beef is hung on outdoor racks, and the dried product, with black beans, forms the staple food of the people in the interior of Brazil.

Ewing Galloway

Thompson

Bread. A Persian baker hangs bread up to be dried by the sun in his outdoor bread shop.



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Corn. The primitive method of grinding corn by hand is still in use in India.

Rice. Terraces in the Padang Hills of Sumatra afford a lesson in the science of irrigation. Natives make every square foot of rice land yield crops.

Ewing Galloway

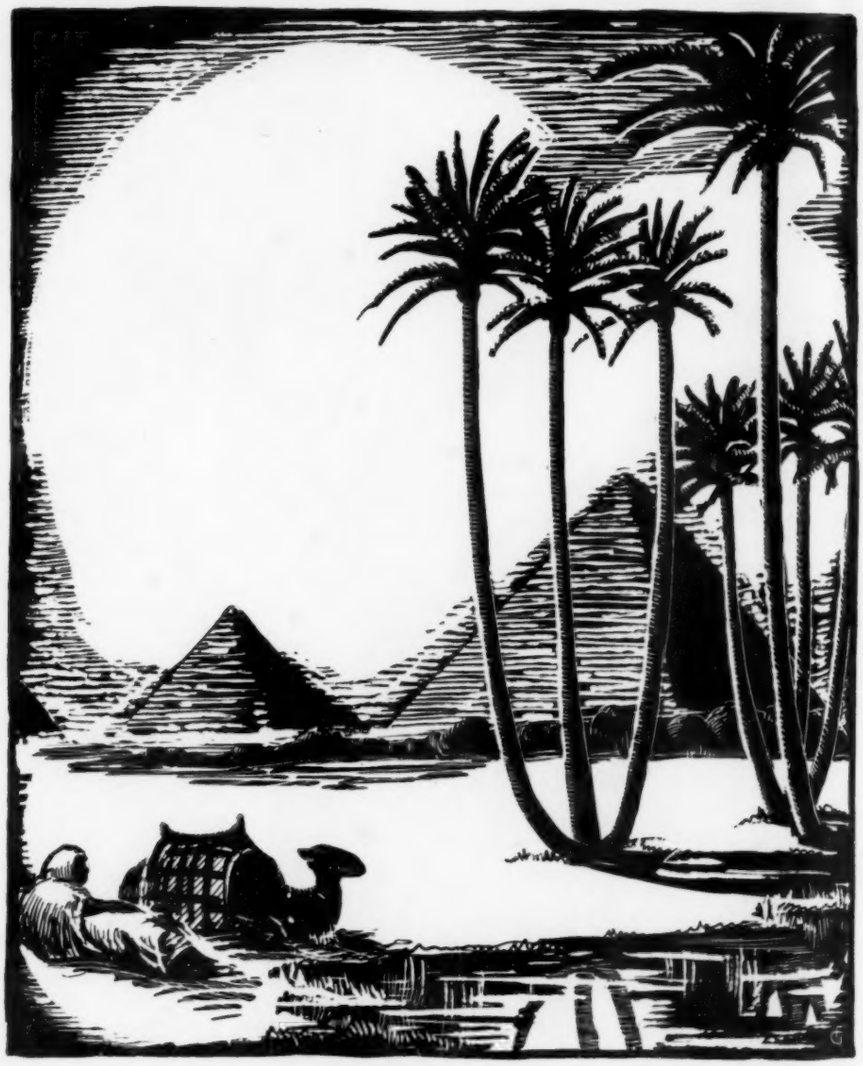
EYE DISEASES IN ADULTS

Chapter X of

THE EYE BOOK

By

HYMAN COHEN



OUT OF EGYPT CAME TRACHOMA, A HIGHLY INFECTIOUS DISEASE OF THE EYES, HAILING FROM ANTIQUITY AND SWEEPING IN ALMOST LEGENDARY FASHION THROUGH STRETCHES OF TIME AND CLIME, BRINGING MEAGER TWILIGHT TO MANY EYES AND SHROUDING OTHERS WITH THE DARKNESS OF UNENDING NIGHT.

HAPPY are those who enter the adult period of personal initiative and worldly incentive, of occupational stress, economic burdens and responsibility and continue in it sound eyed and clear eyed. Many persons reach the prime of life and pass into advanced age without eye trouble, but there are others who are less fortunate.

There are those, for instance, who have previously acquired diseased states and conditions, which may continue or flare up anew. They leave sequelae; the damage done and the new damage that threatens to handicap sight must be overcome or endured. The toll of new diseases and their sequelae, avoidable or otherwise, entails a personal and economic loss and imposes a social burden.

Babies stricken with gonorrheal infection of the eyes are innocent victims, though not the victims of innocence. Adults who are stricken are unfortunate victims of wilful ignorance and saddening carelessness; sometimes they are innocent victims of accident and mischance, as is the case when physicians and nurses become infected in the course of duty. The disease in infants is terrible in its social aspect and in its results; but adult infection is still worse in its consequences, the risk of the loss of an eye being much greater.

Essentially the story is the same in the infant and in the adult forms of the disease; yet there are certain differences. The cause is the identical pus-producing germ, the gonococcus. The original source is in most instances through sexual congress with an infective person.

In order that preventive care may be exercised, it is important to know the ways in which the infection reaches the eyes of adults. The eyes are usually infected by means of fingers that have been soiled with the infectious dis-

charge from the genitals or by the handling of contaminated sponges and dressings. The fingers then carry the dread infection to the eyes. It sometimes happens that, by failure to exercise the utmost precaution or by unavoidable mischance, the physician or attendant caring for a patient with genital gonorrhea infects his own eyes. Or there may be a spurt of pus from the infected eye of the patient to the eye of the physician or nurse. Little girls occasionally have a discharge from the genitals; this may be gonorrheal. If so, it may find its way to their eyes, or indirectly, to the eyes of the other members of the family. Rarely does a person suffering from a gonorrheal infection elsewhere have his eye infected through the blood circulation.

In the new-born infant the disease is first noticeable on the third day; in the adult the first symptoms may appear in a few hours.

The symptoms are redness and swelling of the lids and of the conjunctival covering of the eyeball and a thin, blood-stained discharge, followed by profuse pus. The eye is closed by the swelling, and it is difficult to separate the lids. There is a swelling in front of the ear on the same side. The eye feels hot and painful, and there is fever.

There are mild, moderate and severe cases. As a rule, adults suffer more severely and the disease lasts longer than in children's cases. It may take from six weeks to several months before an adult completely recovers.

Most of the damage of gonorrheal infection is done by the complications. In severe cases the cornea ulcerates and is finally reduced to scar tissue, and the sight of the eye is lost. Sometimes the ulcer causes perforation, which is occasionally beneficial because it relieves the tension. In other cases the iris is involved, and all the other structures become inflamed. The eye either deteriorates into a shrunken, sightless thing or becomes so inflamed in every part that it must be removed. Gonorrheal infection may spread from the eye to the joints by means of the blood stream.

As a final outcome, 17 per cent of all gonorrheal eyes of adults become blind, 11 per cent retain fair vision and the remainder pay the penalty of suffering.

What can be said of prevention at the source, the eradication of genital gonorrhea? What can be done?

Gonorrhea is found only in the human species. Discounting the doctrine of original sin, what is there in the human organism or in human life that makes us, as a species, susceptible to gonorrhea? Any answer is but a guess. Perhaps the absence of gonorrhea in other species is due to their geographically close-framed existence, to their more select gregariousness, perhaps to a greater respect for sufficiency of function and a greater sense of natural aristocracy. At any rate it is our exclusive problem.

The segregation of vice and the medical regulation of prostitution have failed to influence materially the incidence of gonorrhea. The ostrich policy of ignoring it leaves the problem where it was. Continence is applicable only to the naturally continent, of which there are few. If given in time, honest and frank information of ill consequences may deter many young persons. And yet where information is needed most, the elders are unwilling or unable to give it, and the young people are not likely to heed it. When the spell and surge of the life forces meet or make opportunity, the fears and warnings and hesitancies are forgotten.

Early marriage is a natural solution, but that is economically impossible for the great majority and undesirable in many instances for many complex reasons of solid psychologic import under conditions now existing. All these things have been advocated and tried and will be tried again. Gonorrhea continues. There remains the strictly medical and hygienic means of prevention.

Gonorrhea, genital and ocular, is a reportable disease and should be reported to the jurisdictional health authorities. This is the first step in preventive effort. It is no disgrace to be sick, whatever the nature of the disease. Not to report it is to put oneself in the same class with the "hit and run" motorist.

Infection of the genitals requires prompt and proper medical treatment. Quacks, meddling druggists, private prescriptions and misleading advice of "old-timers" should be avoided. Treatment should not be stopped until the cure is thorough and the possibility of propagating the infection is eradicated. Persons who have a questionable discharge or an established case of infection should wash their hands thoroughly with soap and water each time after dressing the infection and should keep their fingers away from their eyes.

If an eye becomes infected, the greatest care must be taken to protect the well eye by putting a transparent shield over it and sealing the edge of the shield all around. In this way no infection can be carried into the eye, and at the same time it is visible for inspection. This and other measures of prevention, and the treatment, must be under the constant guidance of the physician in charge. In general the treatment is the same as for the new-born infant. Complications are treated as they arise.

Trachoma, granular lids, is a highly infectious disease of the eyes, hailing from antiquity, tenacious of its world-wide victims and making them its agents of propagation; it is chronic, sight snatching, disfiguring and blinding. It is not enumerated among the plagues visited on the Egyptians by Moses; but a plague it is, and

out of Egypt it comes. It is almost legendary in its sweep through stretches of time and clime. But it is more of a fact than a legend, sweeping over continents and populations, bringing meager twilight to many eyes and shrouding others with the darkness of unending night.

The ancient Greeks knew of it; it has numerous tents in Arabia; in Palestine it is firmly established. It has outposts in Central Asia, in China, in Japan and in India. The French and British armies brought it into Europe on their return from Egypt during the Napoleonic wars. Then it spread to the other armies, and the soldiers carried the disease to the civil populations of Europe. Reports indicated a tremendous increase in trachoma in various countries of Middle Europe after the World War.

TRACHOMA is prevalent in many sections of the United States. A report made by the U. S. Public Health Service gives the following information:

> In the state of Missouri, 21.7 per cent of approximately 3,200 persons drawing state pensions because of total blindness were made blind by trachoma. . . . Trachoma among the white population in the United States is not confined to any sharply defined area, but in general is prevalent in the states of West Virginia, Kentucky, eastern Tennessee and western Virginia, Missouri, Arkansas and Oklahoma.
>
> There is also a fringe of territory along the Ohio River in Ohio, Indiana and Illinois, peopled largely by settlers from the Appalachian region, where trachoma is found in some abundance. Of course, trachoma is not entirely absent in other sections of the country.
>
> Poverty, overcrowding, insanitary living conditions, and malnutrition constitute perhaps the most potent factors in bringing about this disease.

All races except the Negro race are susceptible. No age is exempt, and the disease often lasts throughout life.

It has long been suspected that trachoma is a germ disease, but Noguchi's recent claim to the discovery of the germ has not to date been fully corroborated.

The infective germs are contained in the secretions of the eyes of those who suffer from the disease. When the secretions find their way to the eyes of healthy persons, they in turn become its victims. The transfer is made by means of objects used in common between the sick and the well, such as towels, sponges, handkerchiefs, common wash basins outside the kitchen door so universal in American farm communities, the sharing of the same bed, or any other intimate contact.

Overcrowding offers great opportunity for such transfer; the poor cannot be fastidious in their habits, and penal institutions, asylums and other public and semipublic institutions, as well as the herding and mingling of men in wars, offer good seeding soil for the disease. It exists under varied civilizations, but always ignorance and poverty are responsible for its spread.

Trachoma is not only a disease of poverty but an impoverishing disease. The government report previously quoted continues:

> A person with trachoma is almost certain to lose some vision. Some have to drop out of skilled trades because they do not see well enough to do close work, and they must then take up unskilled labor at a lower wage. Many more are totally incapacitated, either permanently or for varying periods for performing any useful work at all.

Since the disease is transferred by the secretions, it is spread mostly by those having acute cases with profuse discharge or chronic cases in which repeated acute attacks are suffered.

In the acute cases there are oversensitiveness to light, itching, excessive secretion of tears, discharge and gluing of eyelids, pain and disturbances of sight. Mild, chronic cases may fail to show symptoms unless acute attacks develop.

THE following is a description of a typical case: The space between the eyelids is narrowed because the upper eyelid becomes heavy and droops. The lining of the lids is thickened and shows pushed-up elevations, large and small, arranged like strings of pearls, especially on the upper lids. Later there are scar lines running between and about the puckerings. The upper part of the cornea becomes covered with a gelatinous filmlike growth.

The severer complications are ulcer of the cornea, turning out or turning in of the lids, choking off of the tears with distressful dryness of the eyes, much impairment of sight or total loss of sight.

Since the cure of trachoma is a difficult and lengthy process, its prevention is all the more important. This requires the carrying out of the following measures:

THE TRANSFER OF THE INFECTIVE GERMS OF TRACHOMA IS MADE BY MEANS OF OBJECTS USED IN COMMON BETWEEN THE SICK AND THE WELL. AMONG THE OFFENDERS IS THE COMMON WASH BASIN, WHICH IS SO FREQUENTLY FOUND OUTSIDE THE KITCHEN DOOR IN AMERICAN FARM COMMUNITIES.

1. Educational.—The spreading of information as to its prevalence, mode of propagation and early symptoms.

2. Legislative.—Reporting of cases to health authorities.

3. Medical Control.—Examination of immigrants; regional or traveling clinics; follow-up inspection, and examination of those who are in contact with a case.

Considerable work is being done on these three preventive measures by national and state authorities and by social agencies.

4. Social.—The elimination of overcrowding and the lessening of the evils of poverty.

5. Personal.—Each case of trachoma is an active source for the infection of other persons. Personal care not to spread the disease is of greatest importance; it consists, first, in burning sponges or other articles used in cleansing the eyes. Handkerchiefs, towels and pillow cases should be boiled as soon after use as possible. Wash basins, shaving brushes, shaving cream or soap should not be used in common.

THE treatment of trachoma has as its objectives the lessening of the duration of the disease and the prevention of the serious complications that impair the sight, disfigure the eyes and occasionally result in blindness. The nature and frequency of treatment depend on the severity and stage of the disease. Treatment should not be stopped until an absolute cure has been effected.

Ulceration in the eye occurs only in the cornea, which is unfortunately the part, of all parts, where absolute transparency is of the greatest importance. The cornea is exactly in front and is more exposed to injury than any other part of the eye; it is in the midst of the inflammations and their damaging secretions that beset the front part of the eye and, being a bloodless structure, it cannot readily fight off infection.

The direct causes of ulcer of the cornea are physical injury, foreign bodies that are infected or that bring about subsequent infection, the irritating and tissue-devouring secretions of gonorrhea and trachoma, and other discharges. In children, phlyctenular conjunctivitis is mostly responsible.

Indirectly favoring ulceration are such factors as poor resistance of the cornea, due to disturbance in its nutritional and nerve supply. Systematically, ulceration is due to the social folly of belonging to what is still called the "lower classes" with resulting poverty and malnutrition.

Ulcer of the cornea is accompanied by great pain in the eye, oversensitiveness to light, excessive secretion of tears, and spasm of the lids.

There are many kinds and types of ulcers. No matter what the kind, it always means a loss of substance in the body of the cornea—a break, a scoop-out, of one shape or another, superficial or deep. There are ulcers that spread and crawl along, take their own time before they leave and return again for occasional painful visits. If it is severe, ulcer of the cornea may implicate the surrounding structures, cause a gathering of pus in the front chamber and otherwise result in great harm. Sometimes the cornea ruptures.

ALL ulcers, except the most superficial, leave opacities in the cornea. These interfere with the sight according to their location and density, produce refractive errors and may contribute to the development of squint. In elderly persons a grayish narrow ring, the arcus senilis, often forms just inside the edge of the cornea, but it is not harmful.

Foreign bodies in the cornea should be removed without delay by skilled, responsible hands. In general the earlier the treatment is sought, the better are the chances of escaping with as little injury to the sight as possible. Foreign bodies often produce extremely serious conditions and require all the skill and therapeutic resources of the eye physician.

Hot moist boric acid compresses are useful and agreeable to the eye. Smoked glasses should be worn when the shrinking from the light is great. Bandaging affords relief from the pain of scraping lids, but should not be used if there is discharge. In children the slightest opacities may clear up; in older persons energetic treatment is required, and the results are variable.

[NOTE.—In the May issue, Dr. Cohen will continue his discussion of eye diseases in adults.]

FACTS and FALLACIES ABOUT MILK

PONCE DE LEON, that doughty Spanish explorer and discoverer of Florida, wasted a fortune and spent his life hunting for a mythical fountain of youth. We have that fountain on our very door-step. It is the quart of milk delivered each morning by the milk man.

An authority states that most of the centenarians on record have been persons who consumed an abundance of milk and dairy products. If this is a fact, then our daily ration of milk should be all the more enjoyable, for almost every one desires to live a long and useful life.

Milk has been the subject of much study and discussion. During the progress of the years, many fallacies have arisen concerning it. Nevertheless, new facts are being brought to light each year, and many of the old theories are being put to rout.

SOME popular fallacies about milk should be corrected. The one most frequently heard by persons engaged in the control of milk quality is that thunder storms cause milk to sour. This popular fallacy has gained credence because there is some association of facts with cause and effect. The souring of milk noted during rainy weather is due entirely to bacterial action and not to any strange physical effect that thunder may have on milk. During such weather, cows usually become soiled with mud and filth. If the cows are not properly cleaned before milking, some of this filth finds its way into the milk pail, carrying with it innumerable bacteria, which multiply rapidly in the warm milk. In the process of multiplication they change the lactose, or milk sugar, into lactic acid, which is the direct cause of sour milk. Also, in wet weather the milk utensils do not have an opportunity to dry thoroughly after they are washed. Bacteria thrive on the moisture and food present in dirty utensils. When milk is placed in the pails or cans, the bacteria find a veritable picnic ground. As a result, when the milk is delivered at the plant, or later as raw milk to the customer, it is sour. When the dairyman is rebuked about it, his excuse is, "That thunder storm last night soured all our milk." Strange to say, the operator of the milk plant never hears that excuse from careful dairymen who know how to produce clean milk and who take proper precautions in handling it.

Possibly you have known some one who refused to consume milk and fish together. The popular fallacy is that milk and fish combined in the stomach produce a poison that will result in illness. In the cold light of scientific research, this fallacy is exploded. Milk and fish are an admirable combination in any meal and are the staple items of diet in many European homes, especially in the Scandinavian countries. The next time you have the opportunity to partake of these excellent foods in combination, do not refrain because of fear of the dire results predicted by idle tongues.

YOU may have tasted butter that had a taste of turnips or potatoes or some other foreign flavor. The popular conception is that the cows producing the milk from which the butter was made had been fed on the particular food represented by the taste. More often, however, the off-flavor was produced by bacterial action in the milk or butter after the milk was drawn from the cow. It is a fact, however, that foods consumed by the cow do have an important bearing on the resultant product. The flavor and odor of garlic fed to cows appears in the

By S. V. LAYSON

THE SOURING OF MILK NOTED DURING RAINY WEATHER IS DUE ENTIRELY TO BACTERIAL ACTION AND NOT TO ANY STRANGE PHYSICAL EFFECT THAT THUNDER MAY HAVE ON MILK.

milk one minute after the garlic has been consumed. The odor of garlic inhaled by cows appears in milk twelve minutes after it has been breathed and may persist for considerable time thereafter. Freshly drawn milk from a healthy, properly fed cow is practically tasteless, or neutral in taste. The fat in the milk acts principally as the vehicle for flavor. It is the fat portion of milk and butter that takes up certain odors so quickly when these products are stored in the refrigerator.

Milk or cream exposed to sunlight on the doorstep or window ledge for even ten minutes may acquire an off-flavor and aroma that is described as "tallowy" or "cappy." This flavor is caused by chemical action of certain rays in sunlight on constituents of the milk. Therefore, do not expose milk or cream to sunlight in either winter or summer.

ONE frequently hears that frozen milk is not suitable for infant feeding. Dr. Paul W. Emerson of the Harvard Medical School has refuted this statement. In a recently published paper he reports good results from the feeding of frozen pasteurized human milk to premature babies. The freezing was resorted to in order to have a supply of breast milk available when needed. The milk was pasteurized to make it safe. It was kept frozen for from 1 to 220 days. The average length of the feeding period was 30 days, the longest being 90 days. The birth weight of the smallest baby was 1 pound, 13 ounces. If such tiny mites of humanity thrived on milk which had been frozen, it seems safe to assume that the small amount of frozen milk that may occasionally be found in the top of a bottle of milk on cold mornings will not be injurious to the normal baby. Freezing does alter the physical appearance of cow's milk, but recently reported results of feeding it to laboratory animals indicate that it is as nutritious as normal milk and causes no digestive disturbances.

It is an acknowledged fact that heat reduces the potency of vitamin C, the vitamin that pre-

vents scurvy. The vitamin C content of raw milk varies with the feed of the cows and the seasons of the year. Therefore, neither raw milk nor pasteurized milk can be depended on to furnish a sufficient amount of this vitamin to protect infants against scurvy. For this reason practically all pediatricians recommend the feeding of citrus fruit juice, tomato juice or other foods containing vitamin C.

Many persons believe that milk containing the most cream is best, but from a health standpoint such milk may be the most undesirable. The most important factor to consider in buying milk is its safety. Be sure that it is clean milk properly pasteurized.

In recent years the term "natural milk" has been applied to raw or unpasteurized milk. The evident intent of the originators is to imply that such milk has some mysterious natural qualities not possessed by pasteurized milk. As a matter of fact, cow's milk is not the natural food for the human infant. Nature intended it to nourish the offspring of the cow direct from the udder of the mother. The process of cooling milk is not natural, nor is the process of heating that is used in pasteurization. The cooling is necessary to retard bacterial action, but it does not destroy disease bacteria and make milk safe, as does pasteurization.

RAW milk is subject to contamination at every step of its route from the cow to the consumer or to the pasteurization plant. Under the most ideal conditions of production and distribution, that hazard still remains, and no system or method of control has yet been devised that eliminates the possibility of raw milk being a carrier of disease. It may be designated by names other than raw, but the the fact borne out by a mass of evidence still remains that it is not a dependable safe milk. Efficient pasteurization does safeguard against the transmission of disease germs to the consumers of milk.

In cities where the entire milk supply is pasteurized, milk-borne disease is practically unknown. According to information collected by the American Child Health Association, milk-borne diseases are most prevalent in communities of 2,500 population and less, and in rural areas where the principal milk supply is used in its raw state.

The use of pasteurized milk is steadily increasing. The U. S. Public Health Service says that at the present time 87.5 per cent of the milk consumed in American cities of 10,000 population or more is pasteurized, and that at the rate of increase experienced the past few years, the figure will be 100 per cent by 1940.

Many experiments by unbiased scientists have demonstrated that the nutritive values of raw and pasteurized milk are equal. The question has been asked, "Do children who drink raw milk actually thrive better than children who drink heated milk?" In order to find an answer, not by theoretical reasoning only but on the basis of direct field observation, the U. S. Public Health Service made an extensive field study in thirty-nine American cities. The height and weight of about 3,700 children ranging in age from 10 months to 6 years were studied. The conclusion drawn from this study is, "Children who are fed pasteurized milk or other heated milk thrive as well as children who are fed raw milk, and contract certain communicable diseases less frequently."

At present the dairyman's attention is being directed to vitamin D milk, which is milk artificially fortified with the vitamin that prevents and cures rickets. The vitamin D content of normal milk is not sufficient or is so variable that rickets frequently develops in breast-fed infants and is almost universal in artificially fed children.

THREE methods are being employed to increase the vitamin D content of milk: direct irradiation of the milk before pasteurization; the feeding of irradiated yeast to cows, and the addition of a tasteless and odorless extract of cod liver oil to the milk before pasteurization.

Properly done, these methods in no way affect the odor or taste of milk, and many pediatricians are taking the stand that the fortification of milk with vitamin D is a desirable practice. Many babies, however, require cod liver oil as well. Each case should be decided by the attending physician. The taste of milk is not affected by the addition of vitamin D concentrate, and the nutritive value is not lessened but on the contrary is decidedly improved by it.

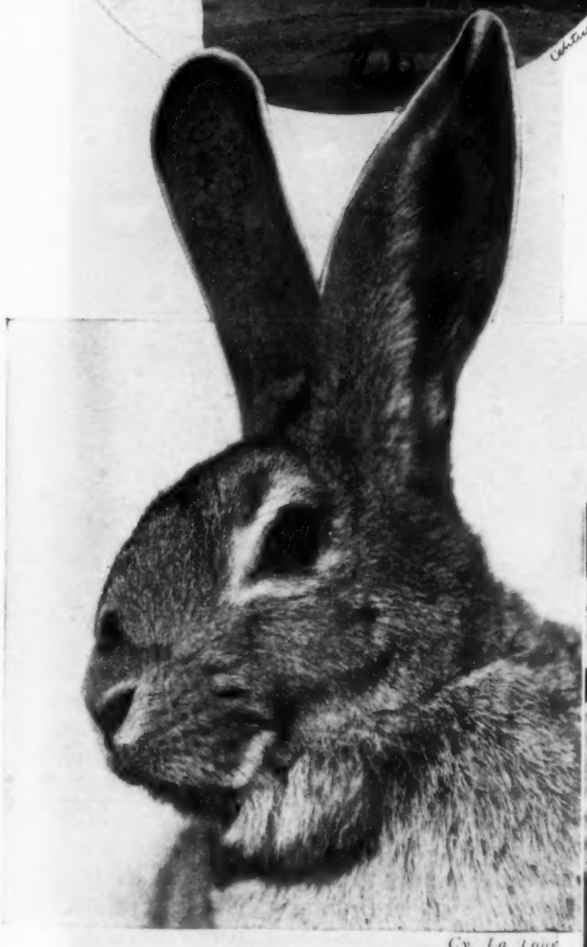
According to a recent report the addition of vitamin D to diets previously considered adequate is an important factor in the prevention of tooth decay. It is intimated that physical cleanliness of teeth, long thought to be the controlling factor, is not as important in the prevention of decay as are correct food habits.

The conclusion to be drawn from this research work is that those whose diet in early life contains an adequate supply of vitamin D, who drink a quart of milk every day and eat vegetables and other foods rich in phosphorus are less liable to tooth decay.

Homogenized milk has been put on the market in recent years. It is milk that has been put through a process by which the fat globules are pulverized to very minute particles. The cream is thereby evenly distributed through the entire volume of the milk. A richer tasting, more palatable milk results, and more is drunk with benefit to the health of those drinking it. The decreased size of the fat particles makes them more digestible. The curd of the milk is also made more digestible because the process so affects the casein that a more flocculent curd is produced in the stomach.

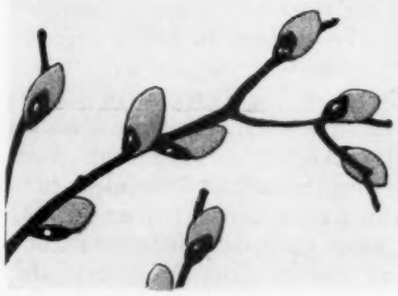
Speaking of Spring—

Century-Allen



Cy. La Tour

Century-Allen



A HOUSEWIFE LOOKS at

XIX

Committee Acceptance of Coffee and Cereal Beverages

By

DORIS W. McCRAY

AS ONE grows just a trifle older, one learns to look for life's little pleasures and satisfactions, since the major ambitions do not always materialize. Life does not fail to yield some pleasures at least. One of those pleasures, justly appreciated, is a cup of coffee, served steaming hot to warm the heart when the day is cold, or served ice-cold in summer to stimulate and revive the wilting spirits.

Coffee has been recognized for centuries as a cheering beverage, fragrant to the nostrils and pleasant to the palate. It is the beverage of friendship. Perfect coffee marks the successful hostess.

Regular coffee is stimulating because it contains caffeine and because it is usually taken hot. There are on the market several other table beverages, including the cereal beverages, and of more recent years, coffee itself, decaffeinated, which will be discussed later.

The Committee on Foods of the American Medical Association has granted acceptance to certain brands of beverages and has also investigated and accepted promotional coffee advertising of the Bureau of Coffee Information. The work of the Committee on Foods is tremendously important to every housewife. It is of vital concern to her since the Seal of Acceptance gives assurance that the advertising claims of products are truthful and serves as a guide in the selection of foods for her family. I have been keenly interested in this work of the Committee as it concerns public health, public welfare and the health of the individual.

The members of the Committee on Foods were appointed by the American Medical Association to carry on this work, entirely without remuneration, in the interests of the public. Outstanding members of the medical profession, food chemists and nutritionists of national standing were selected. They have put in years of tireless work, have considered many angles of many problems and have made certain decisions which guide routine acceptance of brands of food, although new problems are constantly arising and old problems must be reconsidered in the light of new nutritional knowledge.

One has little realization of the vast amount of research carried on by governmental and industrial organizations and by various universities throughout the country, which continue to throw new light on the subjects of nutrition and food composition. Manufacturers support vast research laboratories where the production and nutritional values of foods are considered by chemists and biochemists, nutritionists and physicians, and where practical aspects of manufacture are considered in lowering the cost to the consumer. Competition is keen, and the consumer benefits thereby.

THE advertising of the Bureau of Coffee Information has been accepted by the Committee on Foods of the American Medical Association. This advertising, which is intended to promote the distribution of ground coffee in tins sealed under vacuum, includes information on the cultivation of coffee and on every step in its

the COMMITTEE ON FOODS

COFFEE HAS BEEN RECOGNIZED FOR CENTURIES AS A CHEERING BEVERAGE, FRAGRANT TO THE NOSTRILS AND PLEASANT TO THE PALATE. IT IS THE BEVERAGE OF FRIENDSHIP, AND PERFECT COFFEE MARKS THE SUCCESSFUL HOSTESS.

preparation for the consumer, as well as accurate information on how to make good coffee in the home. The investigations carried on by this bureau show that freshly roasted coffee immediately "sealed in vacuum" in tins does not become stale in the unopened package. Thus it is possible to obtain fresh coffee from the grocer at any time. After the can has been opened, the coffee becomes stale as does any coffee that is exposed to the atmosphere. Staleness or freshness of roasted coffee is dependent on gases retained in the coffee and on the prevention of oxidation of the aromatic substances contained in coffee. Various advertising booklets may be obtained from this bureau.

Statements made by this organization are conservative and accurate; they are in alinement with the best scientific opinion on the subject of coffee. It is incorrect to state, even though the coffee is fresh, that as much as five cups of coffee each day for an adult is entirely harmless. Whether or not the coffee is harmless to the individual can be decided only by the physician who examines him and determines whether or not he is hypersensitive to caffeine stimulation. In his "Report of an Investigation of Coffee," Samuel C. Prescott makes the following observations:

The consensus of opinion is that caffein acts on the nervous system as an effective stimulant, exerting its chief influence on the brain and spinal cord. By its cerebral effect it causes increased rapidity of thought, and by its influence on the spinal cord it increases reflex activity and for this reason it is said to make people "nervous." If used to excess to stimulate brain activity, as by taking large and repeated doses, its effect is ultimately injurious. In the action on the circulation of the blood it seems to tend to raise the blood pressure and to increase the heart beat, especially at first, but this is said to be followed by a slowing of the heart's action and a more forcible contraction of the muscular walls of the blood vessels. In its effect on the kidneys, on tissue waste and elimination, it increases diuresis and exerts a stimulating influence on the secretory epithelium of the kidney. Some authors claim that it acts as a depressant to tissue waste, while others disagree on this point. Psychologically it produces a feeling of well being and of increased strength and vigor, and removes the sense of fatigue. As has already been stated for coffee,

IF THE LITTLE BROWN JUG IS A THERMOS CONTAINING COFFEE, STEAMING HOT OR ICY COLD, IT WILL GLORIFY ANY PICNIC.

excessive use of caffein, or caffein when introduced into the body in large or repeated doses, can give rise to a great variety of phenomena with different individuals, even to the extent of producing tremors, palpitation, insomnia and delirium. . . . On the whole, however, the subject may be summarized by saying that caffein is one of the most useful stimulants known because of the immediate action which is obtained with relatively small quantities and the fact that its reasonable use is not followed by narcotic or depressant effects. Like all stimulants, overdoses produce undesirable effects and these differ with different individuals.

COFFEE is not a beverage for children. The following observations on its effects in children were made by the Committee on Growth and Development in its report for the White House Conference on Child Health and Protection:

Whatever the difference of medical opinion may be concerning the ultimate effect of caffein beverages on adults, all authorities are agreed that their use by children is contraindicated. The reasons are obvious if we consider the effect of superimposing the stimulation of the drug on the already highly active life processes of the child. The energy needs of the child, for example, are already so high that it is often difficult to provide enough food in concentrated form to cover them. Coffee (or tea) stimulates the metabolism and increases these needs still further; yet it provides no energy save that furnished by the milk and sugar it contains and, instead, often takes the place of other food. Coffee, moreover, is a nervous stimulant and its use by a child may lead to overactivity, hyperirritability of the nervous system, and to a shortage of sleep. These, again, contribute to an increased expenditure of energy, while the food intake is apt to be reduced rather than increased. It is not surprising, therefore, that coffee and tea drinkers have been found repeatedly in health surveys to be more commonly underweight than those not using these stimulants.

Most physicians consider coffee detrimental to children but permissible for normal adults.

What we look for in a cup of good coffee is a clear sparkling liquid, a rich fragrant aroma, no bitter taste and little or no sediment in the cup. The beverage should be smooth, mellow and aromatic.

According to the U. S. Department of Agriculture, coffee is defined as follows:

Coffee is the seed of cultivated varieties of Coffea arabica, C. liberica, and C. robusta. Green coffee, raw coffee, unroasted coffee, is coffee freed from all but a small portion of its spermoderm, and conforms in variety and in place of production to the name it bears. Roasted coffee, "coffee," is properly cleaned green coffee which by the action of heat (roasting) has become brown and has developed its characteristic aroma.

The coffee plant is an evergreen shrub of the tropics which is usually kept pruned to a height of about 11 feet. The long green leaves grow in pairs; and on each side of the stem, clusters of white blossoms precede the appearance of the fruit, called the cherry or berry, which is dark red when ripe.

THE planter removes the pulp and the skin; he then dries the coffee beans and ships them to our country where they are known as "green coffee." Brazil grows about three fourths of the entire coffee supply of the world. Various coffees are blended together with great skill to satisfy popular taste. From the many national brands of blended coffee, one may choose a flavor which appeals to the individual taste. One family may prefer a rich, heavy bodied, mellow coffee while another family likes best a lighter, sharper and more sparkling coffee with a more acid flavor; an individual blend may offer a combination of the two types.

Roasting is the next step in the preparation of coffee. Coffee which is insufficiently roasted may have an undesirable flavor while coffee which has been roasted too long may taste scorched or burned. The roasts of coffee are classified according to the degree to which the beans are roasted, and the names are based on the color of the roasted bean as follows: light roast, medium roast, dark roast and Italian or French roast. If the coffee beans were roasted much more than the Italian roast, they would be carbon. The medium roast corresponds to several popular national brands. Roasting is carried on with a great deal of accuracy; thermostatic control has replaced the personal judgment of the coffee roaster.

Coffee must be uniformly and properly ground. The machines have large corrugated

rolls, both of which revolve, producing what is known as steel-cut coffee. There is now a new universal grind, and coffee ground by this method is suitable for use in any type of coffee making equipment. Some manufacturers offer two or three different grinds: the coarse for boiled coffee, medium for percolated coffee and fine for dripped coffee.

Investigations for a certain brand of coffee showed that when the roasted coffee bean was ground and exposed to the air, 65 per cent of the carbon dioxide gas disappeared in twenty-four hours, and in nine days it had almost entirely disappeared. The aromatic or volatile oil evaporated along with the carbon dioxide gas. Therefore the roasted and ground coffee exposed to the air had lost about 50 per cent of its fresh aromatic flavor in seven days. Staleness began to develop about the tenth day as a result of rancidity in the vegetable oil which did not evaporate; and this staleness continued until the coffee was about 75 per cent stale, fifteen days after it had been ground. Loss of freshness and development of staleness may be prevented by packing the freshly roasted and ground coffee in vacuum. A small boy defined vacuum as "nothing where something out to be." As a matter of fact, in vacuum packing 90 per cent of the oxygen in the coffee is removed from the filled can of coffee before the can is hermetically sealed.

In bean coffee, or that which has not been ground, staleness does not become apparent until about twenty-four days after roasting; it develops rapidly during the following week. Coffee which is not fresh has a bitter flavor and the disagreeable odor of staleness. Coffee that has been ground should be used within a week because air inside the can will cause staling even though the can is covered tightly to prevent loss of the pleasant aroma.

To test coffee, first inhale; let the beverage completely cover the tongue and sides of the mouth; swallow it, and exhale through the nose. Staleness is more readily noted when the beverage has cooled considerably. Expert coffee tasters become so skilled that their judgment is extremely accurate in the difficult task of scoring coffee.

For best results, brew the coffee correctly. Regardless of the type of pot used, measure 2 level tablespoonfuls (or 12 grams) of ground coffee for each 8 ounce measuring cup of water; 4 measuring cupfuls of *(Continued on page 377)*

William Henry Welch

(Continued from page 341)

Time and space will not permit me to do more than to refer to the original investigations of Dr. Welch on the gas bacillus and the skin coccus or to his many other important medical activities. Livingston Farrand put it well when he said that "it was the combination of scientific achievement with a broad knowledge of affairs and an ever-present and sympathetic interest in human welfare that gave him the influence he had."

Dr. Welch became president of one medical society after another, including the American Medical Association. His papers and addresses up to his seventieth year were published in three quarto volumes in 1920. Both in this country and abroad there were large numbers who sought his counsel and advice on projects of medical education and research. He played an important rôle in the antituberculosis movement and in the campaign for mental hygiene. For over thirty years he was president of the board of directors of the Rockefeller Institute for Medical Research in New York, and for nearly as long he was a trustee of the Carnegie Institution of Washington. In connection with the new venture in medical education in China he made a special visit to that country in 1921.

During the Great War, he was made successively, major, lieutenant-colonel and colonel in the Medical Reserve Corps of the United States Army; after the war he became a brigadier-general in the Officers Reserve Corps. He was awarded the U. S. Distinguished Service Medal and was highly honored by the Japanese, the Norwegian, the Serbian and the French governments.

The most modest of men, tolerant and persuasive rather than dictatorial, generous to a fault, gratified by the successful work and the growing influence of his pupils, seeking ever the welfare of other workers and the advancement of medical science and public health, Dr. Welch never sought recognition for himself. Nevertheless, it came to him in full measure. He was compelled to participate in the control of activities by many scientific and philanthropic boards. Learned societies all over the world elected him to honorary membership, and many medals and decorations were bestowed on him by governmental and other organizations in America, in Europe and in Asia. Indeed as the years passed, he became the recipient of ever more appreciation and felicitation. In honor of his eightieth birthday, in addition to the meeting in Memorial Continental Hall in Washington at which President Hoover spoke and to the meetings in Baltimore, New York, New Haven and many other cities in the United States, celebrations were held in a number of European countries, as well as in China and in *(Continued on page 374)*

THE MAGIC FLUTE

By Louise E. Dew

JOCK WHIPPED OUT HIS KNIFE AND CUT OFF A WILLOW TWIG. "JUST RIGHT," HE NODDED, AS HE RINGED THE BARK AND PLUGGED THE ENDS WITH SMALL PIECES OF WOOD. THEN HE CUT A MOUTHPIECE AND EIGHT SLITS IN THE BARK.

LIKE MOST English hamlet dwellings, the tiny cottage where Alayne Gray lived was whitewashed and had a thatched roof. Tucked away behind the privet hedge under a spreading yew tree and almost hidden by flowers in the summer, the cottage reminded one of a bird's nest.

"I like it here in the kitchen with you, Mother," Alayne confided one morning. "'Specially when you are baking. Oatmeal cookies smell so nice and spicy—just like the clove pinks in our garden."

Mrs. Gray smiled knowingly as she took a pan of golden-brown cookies from the oven and set them on the table to cool.

"How I wish Spring would come," Alayne sighed. She leaned over the row of red geraniums on the broad sill and pressed her nose against one of the square window panes.

"This is her day," Mrs. Gray reminded. "She always arrives around the twenty-first of March."

"Really, Mother? Shall I see her?"

"A little girl with a seeing eye and a hearing ear can hardly miss knowing when Lady Springtime comes," was the quick reply. "Maybe if you and Gyp take a run down the lane, you'll hear her trumpet or the rumble of her chariot wheels."

"You sound exactly like a fairy tale, Mother," Alayne's laughter bubbled gaily.

"That's what life is, darling," Mrs. Gray replied. "It's one beautiful fairy story from first to last, if we're unselfish and try to make others happy."

"I know," Alayne nodded. "It makes you feel so good and glad inside." And she ran to the hall tree to get her red cap and sweater.

"Here's a bag of cookies for a picnic lunch," Mrs. Gray smiled down at her.

"Oh, thank you, Mother."

At Alayne's call, the big shepherd dog came bounding down the path, and soon they were sauntering along the hawthorne bordered lane. Next month the hedge would be filled with green leaves and lovely white blossoms. Birds

would be calling from the thickets. There would be nests soon, too. Suddenly Alayne espied a willow tree whose buds already were bursting into a soft pink and white bloom. She wanted some catkins to take back to her mother, but she had been taught never to tear branches from trees.

"Jock," she called to the plowboy in the field, "will you please cut some catkins for me?"

"Certainly, Miss Alayne," he answered heartily. "Just as soon as I finish this furrow."

When he had done so, he came with his sharp knife, and in no time at all had filled the little girl's arms with pussy willows.

"Thank you, Jock," she said happily. "Won't you have one of my cookies?"

"I'd like it," he returned heartily. "A fellow does get hungry." Then as he munched the cookie, he turned to Alayne and asked, "Have you ever seen a willow flute?"

"No, I haven't, but I'd like to."

"I'll make you one." He whipped out his knife again and cut off a thick willow twig. "Just right," he nodded, as he ringed the bark and plugged the ends with small pieces of wood. Then he cut a mouthpiece and eight slits in the bark. "These slits are for the notes," he explained. "I'll show you," and he ran the scale, "do, re, mi, fa, sol, la, si, do . . ."

"Oh, how sweet! Now play a real tune," Alayne begged.

He did so. Such a rollicksome, merry tune that a nightingale flew to the willow tree to listen. When Jock finished, the bird burst into a stave of song.

"Maybe he knows Lady Springtime is coming," Alayne said softly.

"Maybe," Jock agreed. "He's a bit early though, according to the old nursery rhyme my grandmother taught me." And Jock caroled in a sing song voice:

> In April come he will;
> In May he's sure to stay;
> In June he's full in tune;
> In August go he must . . .

After Jock had gone, Alayne opened her paper bag again. There was a little gaily bordered, crinkly white paper napkin. She unfolded it and spread it on a flat stone for a tablecloth. Then she put a pussy willow sprig in the center between two pebbles, so that it stood upright. On either side she placed a cookie. Now, if only Lady Springtime would come. Maybe she would, Alayne thought, if she heard the willow flute calling to her.

Alayne placed the little wind instrument to her lips. Then she fingered the openings just as Jock had done. Delightful little trills began to break the stillness. They were mere pipings at first, but soon they became round and clear. It was just like blowing soap bubbles, only nicer, she decided. Alayne was so happy that she danced up and down the lane, the flute at her lips, the tips of her tiny fingers at the other openings. The trills, like real soap bubbles, now came faster and faster.

Suddenly she heard a low, rumbling sound. Chariot wheels! Pink cheeked with excitement, she paused to listen. But all she could hear now was the klip-klop-klip-klop of the hoofs of Jock's horses. Maybe Springtime had forgotten and had gone right by.

And then Alayne saw a little girl about her own age coming up the lane toward her. The newcomer wore a lovely green coat and hat to match with a rolled brim. Her hair was golden, and her eyes were as blue as the scillas in Alayne's garden. A plump lady, just a few steps behind, was trying hard to keep up with the tiny tripping feet of the little girl. Close at their heels was a man who, Alayne decided, looked like a soldier.

The plump lady smiled at Alayne when they met, and she said pleasantly, "I hope we're not trespassing."

Alayne knew what that word meant, for she had watched her father and Jock put up the "No trespassing" signs.

"Oh, no," she said shyly.

"May I see your magic flute?" the little girl asked eagerly.

Alayne handed her the wind instrument. "Jock made it for me," she said proudly.

"Who's Jock?"

"He's our plowboy, and he's working over yonder," Alayne nodded. "I'm sure he'd make you a flute if you'd like one."

"I'd love it!" The blue eyes widened.

ALAYNE PLACED THE LITTLE WIND INSTRUMENT TO HER LIPS. THEN SHE FINGERED THE OPENINGS JUST AS JOCK HAD DONE. DELIGHTFUL LITTLE TRILLS BEGAN TO BREAK THE STILLNESS.

"I thought you had lots of flutes and trumpets and things."

"I have, but I've never had a magic flute like this one. I heard it way over on the road, and that's why I came."

"Where's your chariot?"

"I don't use a chariot," the little girl laughed, "just a carriage and sometimes a motor car. What made you think I had a chariot?"

"Aren't you Lady Springtime?"

"No, I'm not," trilled the birdlike voice. "Did you really think I was?"

"I hoped you were."

"And I'm only Lily Bet." The little girl shook her head in disappointment with Alayne. "What made you think I was Springtime?"

"Because she's coming today. I was blowing my flute for her, and then you came."

"I heard your flute," Lily Bet admitted, "and I thought maybe you were Springtime calling to me." Then both little girls laughed merrily.

"May I ask your name?" Lily Bet said finally.

"Alayne Gray."

"What a pretty name! It's like one in a story my grandmother told me."

"I have no grandmother now. She's gone away."

"But she can come back, can't she?"

"No," Alayne said sadly, "she's gone to heaven."

"Oh, I'm sorry." Lily Bet's laughing face sobered instantly. "I'm visiting my grandmother now. She's the most beautiful lady in the world, next to my mother, of course. What a cute little table, and your pussy willows are just lovely."

"Aren't they? Won't you have a cookie?" Alayne asked politely. "I was saving it for Springtime," she smiled mischievously. Then as Lily Bet hesitated she said, "They're good. They have oatmeal, dates and raisins in them. My mother made them."

Lily Bet looked at the plump lady questioningly. She shook her head firmly.

"I'm never allowed to eat between meals," Lily Bet explained. "Where did you get your pussies?"

"Over yonder," Alayne nodded in the direction of the willow tree. "They're a surprise for my mother."

"They look just like little babies in pink and white christening robes, don't they? May I smell one?"

"Certainly," and Alayne held the bunch of catkins under the dainty little nose. "But they're not fragrant like flowers."

"No, they're not," Lily Bet agreed, as she sniffed at the pussies. "What do they smell like?"

"Springtime, I guess," Alayne said softly. "Have you ever heard her trumpet or the rumble of her chariot wheels?"

"No, I haven't. Have you?"

"Not yet. I thought I did, but whatever it was went right on by. Maybe if we're very quiet and listen, we'll hear them together."

"That would be fun. But would you mind if I got my pussy willows first, so I'd have them if I had to go suddenly?"

"Of course not," Alayne replied. "That is, if you won't pull them off. You see, my mother planted that very tree on her wedding day. She had just a tiny twig in her bouquet, and when she came here to live with Daddy, she put it in the ground, and it grew into that big tree. We always cut the catkins with a sharp knife."

"But I haven't a knife," Lily Bet said, disappointedly.

"Of course not, but maybe the soldier gentleman has one." Alayne looked at him questioningly. He returned her gaze with a haughty stare.

"Never mind," she added quickly. "I'll have Jock cut some for you. And the little willow flute I'll give you. He'll make me another."

"Toodleoo . . . Toodleoooooo . . ." The musical echo of a horn rolled up and down the lane.

"Springtime!" Alayne cried joyously.

"Springtime!" echoed Lily Bet gaily.

The two little girls joined hands and danced together happily.

"It's time to go now, your ladyship," called the plump lady firmly.

"Before I get my pussies for Grandmamma?"

"Yes, there won't be time now. I promised to have you back by 4 o'clock."

"Very well," Lily Bet said obediently.

"You may have my pussies for your grandmother," Alayne said graciously.

"GOOD-BY, ALAYNE," LILY BET WAVED. "THANK YOU SO MUCH FOR THE MAGIC FLUTE AND THE LOVELY PUSSIES." "GOOD-BY, LILY BET," ALAYNE WAVED BACK. THEN TURNING TO HER MOTHER SHE SAID, "IT WASN'T THE QUEEN AT ALL. ONLY LILY BET."

"Thank you so much." Lily Bet's eyes were shining now, for Alayne handed her the little willow flute and was mounding her small arms with the catkins.

Then the plump lady took the child by the hand, and they went down the lane together toward the road, followed by the soldierly looking man.

Alayne gazed after them wonderingly, until they passed out of sight.

"Come, Gyp," she sighed, "let's go home now."

The big shepherd dog wagged his tail and followed her down the lane.

"Did you hear Springtime's trumpet?" Alayne called back to Jock.

"Thought I did," he grinned.

"Toodleooooo . . .! Just like that," the little girl trilled.

Then she hurried on to tell her mother about her great adventure. But before she reached home, Mrs. Gray came out to meet her.

"Oh, Mother," Alayne called. "I've had the loveliest time! I met another little girl. She was hunting for Springtime, too. And we heard Spring's trumpet! I had some pussy willows for you, but I gave them to the little girl for her grandmother. I'll get you some more."

"That's all right, darling, but hurry," Mrs. Gray interrupted. "There's a grand carriage coming down the road. It's been parked at the head of the lane for the last half hour. Maybe it's the queen. They say she loves our lanes in springtime."

Hand in hand they hurried on down to the road. Just as they reached there, a handsome coach, drawn by a pair of prancing bays, came along.

"Curtsy, darling. Curtsy your prettiest," Mrs. Gray told her little daughter.

Alayne lifted her skirts daintily and made a low bow; then she glanced up quickly, so she would not miss seeing the queen. But instead of the royal lady, there sat a child on the wide, velvet cushioned seat, and in her arms she held a big bunch of pussy willows. Lily Bet! Beside her was the unqueenlike figure of the plump lady. On the little high box seat back of them sat the footman whom Alayne had taken for a soldier, and on the front seat was the coachman. Both men were sitting stiffly erect and looking straight ahead.

"Good-by, Alayne," Lily Bet waved. "Thank you so much for the lovely pussies and the magic flute."

"Good-by, Lily Bet," Alayne waved back. Then turning to her mother she exclaimed, "It wasn't the queen at all. Only Lily Bet."

"Only Lily Bet!" gasped Mrs. Gray. "Why, child, that was the little princess Elizabeth."

"Well, she's a nice little girl, even if she isn't the queen," Alayne told her mother.

"I should think so," Mrs. Gray laughed softly. "Lily Bet is a queen in the making."

"But you see, Mother, I didn't know that," Alayne told her shyly. "I gave them to Lily Bet because I liked her."

"Of course you didn't know, darling. That's the lovely part of it. You just did the generous thing, and it turned out to be for the queen, after all. One never knows."

"Well, anyhow, I'm glad Lily Bet and I heard Lady Springtime's trumpet and the rumble of her chariot wheels together," Alayne said happily.

New Books on Health

THE ADOLESCENT IN THE FAMILY

A publication of the White House Conference on Child Health and Protection, Ray Lyman Wilbur, M.D., Chairman. First Edition. Cloth. Price, $3. Pp. 473, with charts. New York City: D. Appleton-Century Company, 1934.

PUBLICATIONS continue to come from the recent White House Conference on Child Health and Protection held during President Hoover's administration. The present volume is concerned primarily with the adolescent and his adjustments to the family in which he lives.

The leaders in the preparation of this book are Louise Stanley, chief of the bureau of home economics, and E. W. Burgess of the department of sociology, University of Chicago, who have been concerned with the importance of the family as an agency in the educational development of the child. Attempts have been made to evaluate the aspects of family life that concern the personality of the child, and comparisons are made between conditions in urban and rural families, and between white, Negro and immigrant families. Finally a study is made of the effects on the home of the social changes which are taking place in American life.

The information in this book is based largely on data secured by questionnaires sent to 13,000 school children and to some hundreds of school teachers. Lest there be some question as to the validity of the method, the book contains a large appendix dealing with the questionnaires and the construction of their scientific status.

An adequate index completes a volume in which valuable data are available which lead to the definite conclusion that some basic program of parent education is necessary for a most favorable environment for the adolescent. Above all, more research is required and more child guidance studies and clinics are necessary in connection with the work of the public schools. Child study clubs for parents must be encouraged, and means must be particularly worked out for family recreation. The Italians, Mexicans, and Negroes seem to require more educational work than has thus far been available for them.

MORRIS FISHBEIN, M.D.

FOOD AND HEALTH

By Henry C. Sherman. First Edition. Cloth. Price, $2.50. Pp. 296, with tables. New York: The Macmillan Company, 1934.

OUR KNOWLEDGE of foods and of nutrition has advanced so rapidly in the past ten years and continues to move at such a pace that books are out of date almost as soon as they are published. This volume by Professor Sherman is planned to keep abreast of current knowledge and to emphasize particularly the uses of food, not only for health but for buoyant health.

The volume contains an excellent reference to the work of the Committee on Foods of the American Medical Association. The author discusses foods from the point of view of the energy they produce, their digestion, mineral salts and vitamin content and the uses of special food substances.

There are excellent tables of caloric values, protein and mineral values, and records of selected diets. An excellent bibliography completes this useful book.

M. F.

INFANTILE PARALYSIS

By George Draper. Cloth. Price, $3. Pp. 167. New York: D. Appleton-Century Company, 1935.

AT A TIME when it seems likely that scientific medicine is beginning to develop some means of protecting children against infantile paralysis, it is well to have such an excellently written survey of our present knowledge as is offered by Dr. George Draper in this book. He begins with the great epidemic of 1916 which swept across the eastern portions of the United States. He then considers the early history of the disease and our present knowledge of the question as to whether or not it is possible to develop resistance to infantile paralysis.

Dr. Draper is convinced of the great significance of heredity in relationship to infection with a disease of this type. He accepts the idea that the infection enters the body by the nose and throat, and he cites the significant evidence which favors this point of view and discloses the manner of spread of the disease in the body. His fourth chapter is concerned with the idea that in persons of certain body type, infantile paralysis is much more likely to develop than in others. This view as to the nature of the constitution in which infantile paralysis is likely to develop is not as yet generally accepted.

The book provides also an analysis of the development of recent epidemics, a description of the individual case, a discussion as to what can be done with the child who is paralyzed and finally a consideration of the outlook for the future. A brief bibliography completes this work.

M. F.

[NOTE.—Books reviewed or mentioned on this page, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association.]

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

The Schoolhouse and Grounds Suggest Health Teaching

THE FOURTH ARTICLE IN A SERIES ON THE CLASSROOM TEACHER AT WORK

ONE of the most perplexing and persistent problems in health education is to know what to teach. In previous editorials we have tried to emphasize the importance of seeking for the answer to this question in the needs of the children themselves. We have noticed that this answer, in part, must be found in the health needs of the community of which the child is a member.

Another source for suggestions may be found in the classroom and the schoolhouse with its immediate environment of schoolgrounds and streets. Teachers are so used to feeling that they have accomplished their best when they have followed a more or less mechanical course of study that to some it may be surprising to learn that in our best schools under the direction of intelligent supervisors it is realized that a modern course of study represents an attitude of mind rather than certain commands set down in print. That attitude is represented by the desire and intention to teach children what they really need to enable them to live life successfully and happily. Any formalized course of study or supervisory staff which fails to arouse such an attitude must be put down as a failure.

Even the bare physical school and its surroundings suggest opportunities for the health teacher. Let us picture to ourselves Miss K. who stands on the school steps early on the first day of the school year. There is no one around, but she notices that even at that hour the street in front of the school is fairly well congested with traffic. She begins to wonder about the dangers from such a street. Are there many accidents? How do the children travel from their homes to the school? Do most of them come by bus or automobile? Are they trained in observing safety rules? What information and training do they need? Her eye surveys the grounds of the school. She sees some play apparatus. She questions whether this apparatus is safe, whether it is adapted to the needs of the children for whom it is intended and whether the children have learned to use it intelligently. Do they know what to do when first aid is needed? She also wonders whether the children have learned some good group games which will combine the elements of fun and safety.

As she enters the building, she observers that there are stairs and recalls the many accidents that occur because of children playing, pushing, or going up and down on the wrong side of the stairway. Mentally she resolves to watch carefully as her pupils use the stairway.

Miss K. opens the door to her classroom and adjusts the shades to get a good light at her desk. Again she wonders whether the children have learned to adjust these shades and whether they know about the importance of taking good care of the eyes. The school furniture is new and adjustable. Have the previous teachers and pupils learned to adjust these new seats with the janitor's help? Have they learned the best sitting position for reading and writing?

Other things command her attention, including the clothes closets, the method of heating and ventilating, the drinking fountain and the facilities for washing the hands. Everywhere around her she sees health problems. If the equipment is poor, she thinks of a practical way to meet the situation. No matter what the conditions may be, she decides that she will find out with the children's help how they may wash their hands before eating their lunch. If the facilities for handwashing are adequate and satisfactory, there still remains the problem of teaching their use.

Even before she sees any of her pupils, Miss K. realizes with a keen Sherlock Holmes intuition just what part the health problem will play in her school program. She is mentally in action even before her pupils arrive.

Health Teaching in April

THE MONTH of April symbolizes the springtime of the year. About this time, life appears everywhere. The hibernating animals begin to awaken from their drowsy sleep. The hillsides become green. Flowers begin to bloom. Gardens are being planned, for it is the planting season of the year.

Many schools have their own gardens. Most pupils who do not have gardens at school may have one in their back yards. What more appropriate time can be found to talk about practical plans for gardening and the food values of different vegetables? Each vegetable has an interesting bit of history. Think of the interesting story of the tomato. Today we are so fond of tomato juice, tomato salads and the liberal use of the tomato in our diet that we have forgotten that at one time the tomato was regarded as poisonous. Botanists tell us that it first grew in South America. It was probably cultivated in Mexico many years before the appearance of the Spaniards in 1519. Believed to be poisonous, the tomato plant was cultivated at first because it was beautiful. Gradually the tomato began to be used as food, and today it is the most widely used of all canned vegetables. Like most vegetables it has little fuel value but is rich in vitamins. This discovery and the knowledge that little of its vitamin value is lost in canning have helped to increase its popularity in recent years. America has the largest per capita consumption of tomatoes in the world. Probably no other nation, unless it is Italy, has such an appreciation of this delicious vegetable. Such a story as this might well be told to children and linked with gardening activities and the planning of menus and choice of foods both at home and at school. Recipes might be collected for the use of mothers.

This consideration of the tomato might well be carried over to other vegetables such as potatoes, squash, celery, chard, peas and beans. Each vegetable has its own particular history and place in our lives today. For sources, the teacher may consult back numbers of HYGEIA and such books as Crissey's "The Story of Foods," published by Rand McNally & Co., and "Broadcasting Health," written by Andress and

Goldberger, and published by Ginn & Co.

In many parts of our country, April is one of the rainy months of the year, and children are liable to have damp clothing when they get to school. Some schoolrooms may be inadequately heated because of the change from winter to spring. Instruction and training regarding rubbers, umbrellas and the importance of having dry clothing while sitting in the schoolroom would be valuable. In many parts of the country, traffic problems increase because motoring for pleasure becomes more popular. Safety education requires fresh emphasis.

SOLVING HEALTH EDUCATIONAL PROBLEMS

HOW I USE HYGEIA IN MY HEALTH TEACHINGS

MRS. FRANK W. HILL
Teacher at Buchanan School
PORTLAND, ORE.

Many teachers find HYGEIA *a great aid in their health teaching. The author of this article has condensed a prize winning article on how she used* HYGEIA. *Readers who are interested in this problem might like to write to* HYGEIA *for a copy of the booklet, entitled "Exploring* HYGEIA, *The Health Magazine, for Health Teaching Ideas," prepared by the editor of this department.*

I FIND HYGEIA most useful with its pages of knowledge, increasing interest in health problems, and its aim to participate in the most helpful ways of promoting child health.

I have read excellent articles informing teachers of diseases that develop in schools and of methods of preventing them. The general discussion of subjects such as "How Science Solves Crime" gives a background and understanding of the importance of inheritance, early experience and emotions, which are important factors to one who guides children. Too many health books stress only physical hygiene, whereas HYGEIA places emphasis on both mental and physical hygiene.

Brief and practical articles by men and women of national standing enable one to keep up with changes in educational aims. It is extremely important that the proper foods in sufficient amounts are provided for the child. In HYGEIA a teacher may find information about foods that are essential for the growth of the body and for the repair of tissue. She is also able to keep informed on interesting experiments in nutrition, a fact which is of value these days when there seem to be so many undernourished children.

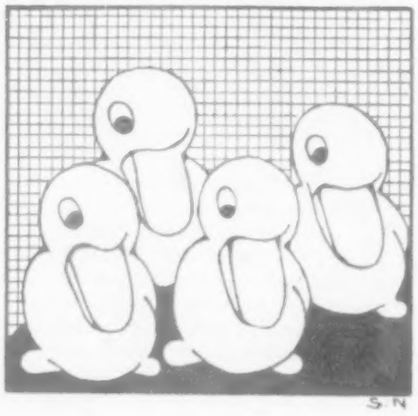
Teachers faced with behavior problems must free these pupils from their fears, griefs and worries to save them from being misunderstood, and in HYGEIA I find methods for doing this effectively and happily.

When parents ask questions such as, "Do you think it necessary to have the deciduous teeth filled?" a teacher who saves her copies of HYGEIA will usually find the answer under "Questions and Answers" or in the pages of general discussion. These articles contain many facts that can be used in classroom exercises. Teachers as well as parents need the most advanced knowledge on getting children well born, and this information is found in the splendid articles on heredity and environment. By reading articles such as "Helpful Hints on Children's Play," and "Give Your Child an Attractive Speaking Voice" we can contribute in making this a happier and a more efficient world.

Cover designs and larger pictures, used in the advertisements, serve as excellent pictures for posters. The snappy, humorous pen and pencil illustrations serve as clippings for scrapbooks or may be copied on the blackboard by pupil or teacher to illustrate jingles, poems, stories or chalk talks.

Excellent suggestions are found on the page of "New Health Books" and "Solving Health Education Problems." In each grade there are points to be emphasized in presenting the subject of food. Primary grades encourage the eating of vegetables, milk and fruits, while pupils in the upper grades learn why these foods are eaten. I find the classification of foods and their relation to growth and health all covered in the section on health education problems, which also includes reasons for health habits.

The department of "School and Health" is of great value since many teachers do not have enough information to handle certain types of health problems. These pages unfold interesting teaching materials which are to be solved by the teacher and pupils working together. These pages stress the fact that children should be actually living health every day instead of memorizing health rules which they may be violating every hour. The book reviews included under the heading "New Books on Health" contain information, teaching devices and helpful hints on all phases of health activities.



The fairy tales may be read aloud, and the health rule embodied in the story may be written on the blackboard as a daily reminder. A list of vegetables, fruits, and health articles mentioned in the story may also be written on the blackboard. These stories, poems and songs may be mounted or made into booklets to be given to pupils who have excellent records on dental charts or who have made efforts to improve in posture. Suggested menus found on various pages may be discussed with pupils. For Christmas a fifth grade class made booklets, decorated with holiday decorations and containing recipes for candies and cookies made with dried fruits, as described in an issue of HYGEIA.

Since most of the advertisements in HYGEIA relate to some phase of health, these pictures may be used for the writing of original advertisements. Pupils find this fun, and proper health habits may be stressed in this way.

Shortened school terms call for emphasis on safety. In HYGEIA I find excellent suggestions for safety work, such as reporting of pupils for jaywalking; safe ways to cross streets, help from traffic officers, traffic lights and pedestrian lanes; suggested drawings for a street intersection on the schoolroom floor while pupils take the parts of traffic policeman and pedestrians, and study of transportation emphasizing safety devices on autos, trains and street cars.

Many of the finest dramatizations by my classes were from stories found in HYGEIA. One most enjoyed was that in which a shipload of pirates were led into healthful living by the finding of a treasure chest. A third grade class dramatized this story for the auditorium, repeated it for the Parent-Teachers Association and asked repeatedly to dramatize it in the classroom for weeks afterward. The health principles embodied in this play will always remain with these pupils, I am sure.

Teachers might loan copies of HYGEIA to chairmen of Parent-Teachers Association committees. Most of these groups have study clubs, and the leaders will welcome

the opportunity to read material to correlate with discussions of child problems.

Literary gems appearing between small miscellaneous articles serve as excellent blackboard material. One may be written on the blackboard each week. This one, for example, relates to mental health: "The pleasantest things in the world are pleasant thoughts, and the greatest art in life is to have as many of them as possible."

ADVENTURES IN CHARM—A HEALTH PROGRAM FOR ADOLESCENT GIRLS

CHARLOTTE STANARD
Nutrition Director, Cleveland District Dairy Council
CLEVELAND, OHIO

It is easy to teach personal hygiene effectively if it can be presented to satisfy genuine human wants. Here is a story of how the study and practice of health was made alluring.

A HEALTH project for adolescent girls which has attracted widespread attention was carried on last year in Cleveland. "Adventures in Charm" was the name given to the program by the organizations which sponsored it.

A few years ago the Cleveland Anti-Tuberculosis League conducted a very successful health campaign known as the Girls Health Year. With this as a background, the Cleveland District Dairy Council called together representatives of all Cleveland organizations working with adolescent girls. This group adopted as its name the Association of Adventurers, and the names of twenty-four sponsoring organizations appear on the letterhead. They enlisted the interest of an advisory committee of ten members, including the health commissioner and other prominent physicians, social workers, a well known psychiatrist, the Girl Scout commissioner, the national president of Camp Fire Girls and the health education chairman of the Cleveland Dental Society. All material was submitted to the advisory committee for criticism and suggestion before being printed.

To prepare the material and plan the program, committees were appointed which met almost weekly during the winter. The project was carried on through the individual group leaders, to more than 500 of whom the bulletins and instructions were sent each month after each leader had enrolled her group by sending in a registration card.

The objective of the program was to improve the health practices of girls of high school age or over.

Recognizing that the health appeal, as such, is not usually very effective with this particular group, charm, for which every girl longs, was made the goal. No new groups were organized for the purpose, but practically all the organized girls' groups in Greater Cleveland used the plan as part of their program. The total number of girls enrolled reached about 16,000.

At the beginning of the year each girl received a small portfolio, printed on attractive colored paper, telling her the general plan of Adventures in Charm and suggesting that the portfolio might be used to hold the series of leaflets which she would receive. The cutting and pasting up of the portfolio provided an activity for some of the clubs. At the same time each girl received a booklet called "See Yourself as Others See You," which was really a health habit score, cleverly worded, attractively illustrated and in a convenient form. The committee tried to make it clear to the leaders that the check on health habits was not to be regarded as a report to be made to the leader but was for the use of each girl to encourage her in improving her own record. Every month throughout the year the girl received a new leaflet, each one entitled "Adventures in Charm," printed on different colored paper, with appropriate illustrations.

The first leaflet was on personality, and the purpose was to enlist the girls' interest in the plan so that they would be ready to accept the succeeding ones. The material in the first leaflet was mainly in the form of questions to provoke thought, and it was suggested to the leaders that this leaflet be used as the basis for discussion in the groups.

The second leaflet was on the subject of outdoor exercise, especially walking, and was entitled "Stepping Out." It included such headings as "What to Wear," "What to Take" and "Outdoor Meals," besides suggesting many interesting activities, places to go and things to see. Space was provided for adding up the number of miles walked during the month. As the month selected for this activity broke all records for cold weather, the number of miles walked was not as great as might have been expected, but many groups used the suggestions later on.

The third month the topic was food, and the title of the leaflet became "Let's Eat." Here was an opportunity to bring in the relation of food to health as well as to good looks and to try to combat old food superstitions and new food fads, while at the same time building up respect for different national foods and habits of eating and encouraging the development of a taste for varied foods. Suggestions were given for planning club suppers or home meals.

It is common knowledge that many adolescent girls refrain from drinking milk because they believe that it will make them fat. To combat this idea each leader was offered copies of the booklet "Tips About Hips" for her girls and also "In Milady's Garden." Both of these, written by Happy Goldsmith in his usual humorous style, encourage the use of milk. Several thousand copies were sent out on request of the leaders.

The next topic was that of personal charm, and the title of the leaflet was "Be Yourself." This emphasized the importance of individuality, of cleanliness, posture, rest and proper food as well as the need for careful grooming and the selection of becoming clothing for personal charm. It included a number of statements which the girls could check as true or false or which could be used for group discussion. Among them were the following:

The well dressed girl wears high heels on every occasion.

Black lines over the eyes do not have the charm of eyebrows.

Our teeth need food as well as brushing.

In connection with this topic, one of the department stores put on a style show for the girls. Members of the various groups acted as models, and about 1,200 girls crowded the auditorium for two performances of the show. The stylist who gave the talk emphasized the importance of food, posture and cleanliness. At this time several mothers of girls stopped to tell us how grateful they were for the Adventures in Charm, which had been successful in convincing their daughters of the truth of certain points which the mothers had been unsuccessfully trying to teach for months.

Again a supplementary leaflet was offered; this time it was entitled "My Dear, You're a Jewel." Several thousand of these were requested.

The fifth topic was entertaining; the title "Do You Rate?" referred

to a rating scale for hostess and guest which was drawn up by the committee. The leaflet also included a section on manners, hostess hints which emphasized the importance of being in good physical condition in order to enjoy a party, and party menu suggestions, including foods which are valuable from a nutrition standpoint as well as because they are good to eat.

The last leaflet was definitely for the summer and was called "Get Out." It emphasized the value of fresh air and sunshine, the importance of having a hobby for leisure time, and the benefits of storing up health and vitality during the summer months. The last page suggested a review of all the Charm folders and another checkup in the "See Yourself" booklet.

The success of the plan depended, of course, on the cooperation of the individual club leaders; and from all reports they were exceedingly eager to use the program and were most enthusiastic about the way it worked out. Every month a sheet of instructions was sent to each leader, giving her many suggestions for carrying on the work. Reports on progress were requested, and these were used in a news bulletin which was sent to all groups to let them know what others were doing.

At the end of the project the leaders were asked to report on it. All reports received were very favorable, several of them saying that the girls were getting more sleep, eating more vegetables and drinking more milk. The following remarks are representative:

This project has been very interesting and helpful. It has made the girls realize that they can develop charm but that they must be healthy to do so.

Very much relieved to find that milk was not fattening.

The booklets "Adventures in Charm" are the very best I have ever read, and I believe it really did improve many of my Camp Fire Girls.

I think these booklets have helped the girls in their health and general appearance.

Although the committee did not try to promote the program outside the Cleveland territory, it has attracted widespread attention. Following several newspaper releases, more than 3,000 letters have been received from every state in the Union and from several foreign countries, including Mexico, Canada, England and the Irish Free State. Samples of the leaflets were sent in reply to these requests, and it may be of interest to note that nearly a hundred people were sufficiently interested to pay a dollar each to get the complete set of leaflets.

Additional groups are still requesting material, and the Association of Adventurers is now trying to solve the problem of how to carry on for the coming year.

A HEALTH PEEP-SHOW

MARY LEAH SHROPSHIRE
STATE SCHOOL, VINELAND, N. J.

In planning construction work in manual arts it is often possible to introduce attractive ideas on health. Miss Shropshire tells about an interesting project which you may like to try yourself.

MY PUPILS made a very easy, quick and inexpensive peep-show on health. It was constructed in a large shoe box. The top of the lid was cut out, and light blue tissue paper was pasted over the opening. This gave a soft glow inside the box. A hole, 1½ inches in diameter, was cut in the front of the box, which was finished with a pasteboard circle. Green paper was pasted over the front of the box in order to give it a neat finish.

The children were asked to make a free-hand drawing of a health home surrounded by green landscape, bright flowers bordering a walk, trees, a large yellow sun and sun rays leading to the health home. The best drawing was selected and pasted in the back of the box. Above the house the words "Health Home" were printed.

Green construction paper was pasted in the bottom of the box to represent grass, and an attractive stone walk was drawn from the front of the box to connect with the walk of the health home. Along the walk were pasted bright flowers which had been cut free hand.

Two white sign posts, 1¾ inches high, were cut from stiff white paper and pasted on either side of the walk. "Good Food Avenue" was printed on the right sign, and "Exercise Avenue" was printed on the left sign. Five brownies, 1¼ inches high, walked along in a row on Good Food Avenue carrying foods, such as potatoes, a red apple, a large orange carrot and a red tomato. These were placed near the back of the box. There were also two green trees, cut free hand, arranged near the front of the box.

The left side of the box represented "Exercise Avenue." Half way back on this side of the path were figures of two little girls, 1¾ inches high, playing ball. These were also cut free hand and were dressed in bright colors. Back of these was placed another green tree. Near the front, on the same side, was placed a gymnasium standard. A girl in bright tights hung on the rings. In front of this apparatus was placed a boy in tights hanging from two strings fastened in the top of the box. Every time the box moved, the boy moved on his ropes, making it look as though he were really doing stunts on the rings. Beside this figure was placed another green tree. The little bright figures stood out and almost seemed to be in action.

The result of this project was not only that it created interest but also that it was a source of delight, for it stressed the imaginative appeal and satisfied that urge to create. It is also one of the first things which visitors pick up and one of which the children never tire.

There were many values involved, including pupil suggesting, pupil planning and pupil doing. These principles were used to motivate previous health lessons and were used as an incentive for creative self expression in art lessons.

(Continued on page 380)

To Contributors: — *The editor of the School and Health Department will be pleased to receive articles dealing with the solution of concrete and practical health education problems in the school. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

AMERICAN MEDICAL ASSOCIATION RADIO PROGRAMS

The American Medical Association Broadcasts Weekly over the Networks of the National Broadcasting Company and the Columbia Broadcasting System

National Broadcasting Company

Middle Atlantic States
WJZ New York
WSRY Syracuse, N. Y.
KDKA Pittsburgh

East North Central States
WCKY Cincinnati
WENR Chicago
WIBA Madison, Wis.

West North Central States
KSTP St. Paul
WEBC Duluth, Minn.
KFYR Bismarck, N. D.
KWCR Cedar Rapids, Iowa
WREN Kansas City, Mo.
KWK St. Louis
KSO Des Moines, Iowa

South Atlantic States
WBAL Baltimore
WMAL Washington
WTAR Norfolk, Va.
WPTF Raleigh, N. C.
WWNC Asheville, N. C.
WSOC Gastonia, N. C.
WIS Columbia, S. C.

East South Central States
WSM Nashville, Tenn.
WMC Memphis, Tenn.
WJDX Jackson, Miss.

West South Central States
KVOO Tulsa, Okla.
WKY Oklahoma City
WFAA Dallas, Texas
KTBS Shreveport, La.
WOAI San Antonio, Texas

The broadcasts over the National Broadcasting Company network are scheduled each Tuesday at 5 p. m. eastern standard time.

April 2. Sickness Insurance, Dr. R. G. Leland.
April 9. Crying for the Moon, Dr. W. W. Bauer.
April 16. Meeting a Challenge, Dr. W. W. Bauer.
April 23. Sudden Death, Dr. Morris Fishbein.
April 30. Child Health, Dr. W. W. Bauer.

The broadcasts over the Columbia Broadcasting System are scheduled each Thursday at 4:30 p. m. central standard time.

April 4. Negro Health Week, Dr. W. W. Bauer.
April 11. Sickness Insurance, Dr. R. G. Leland.
April 18. "Catarrh," Dr. W. W. Bauer.
April 25. May Day, or All Year 'Round? Dr. W. W. Bauer.

Programs are available to the stations listed at the right and left. Local stations may not broadcast network programs regularly and in some instances may not broadcast them at all. Local requests for programs might cause local stations to broadcast them.

Columbia Broadcasting System

West North Central States
WCCO Minneapolis
WNAX Yankton, S. D.
KSCJ Sioux City, Iowa
KFAB Lincoln, Neb.
WMT Waterloo, Iowa
KMBC Kansas City, Kan.
WIBW Topeka
KFH Wichita

East North Central States
WMBD Peoria, Ill.
WISN Milwaukee
WBBM Chicago

West South Central States
KOMA Oklahoma City
KRLD Fort Worth
WACO Waco
KTSA San Antonio
KTRH Houston

Mountain States
KLZ Denver
KVOR Colorado Springs
KSL Salt Lake City
KOH Reno

Pacific States
KERN Bakersfield
KMJ Fresno
KHJ Los Angeles
KOIN Portland
KFKB Sacramento
KGB San Diego
KFRC San Francisco
KDB Santa Barbara
KOL Seattle
KFPY Spokane
KWG Stockton
KVI Tacoma

HEALTHGRAMS ✣ from Articles in This Issue

¶In combating tuberculosis, the attack must be made during the stage of first infection, and reinfection must be prevented. *See page 318*

¶The most important symptoms of cardiac weakness are shortness of breath, inability to lie flat, pain in the heart region, palpitation and swelling of the feet. *See page 312*

¶Most physicians consider coffee detrimental to children but permissible for normal adults. *See page 354*

¶The treatment of trachoma has as its purpose the lessening of the duration of the disease and the prevention of serious complications that impair the sight. *See page 346*

¶Paper sandals should be worn in locker-rooms and gymnasiums and discarded after use in order to prevent ringworm fungus infection, commonly called "athlete's foot." *See page 310*

¶In the Paolo Colosimo Industrial School of Reeducation for the Blind each graduated artisan has his own specialty. *See page 334*

¶It is only in the larval stage that the harvest mite is a real troubler of men. *See page 322*

¶Many bad boys and peevish girls are made so by the nagging of tooth cavities. *See page 326*

¶The career of Dr. Welch may serve coming generations as an inspiring example of the possibilities of acquisition of profound knowledge and wide medical experience. *See page 338*

¶Antony van Leeuwenhoek was a forerunner of modern medical research. *See page 321*

¶In a general way the people whose patterns children unconsciously copy may be divided into two groups: the adults who surround them, and the children with whom they play. *See page 315*

¶The seller of "guaranteed" quack medicines quite often is the only insured party, for the purchaser's money, no doubt, assures the promoter the "perfect satisfaction" mentioned. *See page 305*

¶The world is indebted to the Indian for the discovery of Cascara sagrada, quinine, ipecac, sarsaparilla and cocaine. *See page 342*

¶In cities where the entire milk supply is pasteurized, milk-borne disease is practically unknown. *See page 350*

QUESTIONS AND ANSWERS

Difficulty in Breathing

To the Editor:—My tonsils have been removed, but I still find it difficult to breathe although my lungs and heart are normal. What is the reason?

M.O., New York.

Answer.—Enlarged tonsils are not the only obstruction to breathing. Difficulty in breathing may result from enlargement of certain nasal structures, called turbinate bones. It may also be caused by a crooked partition or septum in the nose, as a result of which one nostril is narrow and the other is distorted. Swelling of the mucous membrane in the nose, as the result of chronic infection, hay fever, or sensitiveness to dusts or articles of diet, may also produce difficulty in breathing. Sometimes there are so-called polyps or tumors which grow in the nose and give rise to difficulty in breathing. If enlarged, adenoids, which correspond to a third tonsil in the space behind the nose, may obstruct breathing. Some persons have a nose which, without any other abnormality, is small and in which the nostrils are narrow, thus creating difficulty in breathing.

Heart disease and diseases of the lungs may be responsible for shortness of breath.

Sometimes difficulty in breathing or the necessity for rapid breathing may be caused by diseases which apparently have nothing to do with the heart or the lungs; among these are anemia and certain types of generalized disease in which there is a symptom called air hunger. This is not truly a difficulty in breathing but a difficulty in transmitting oxygen to the tissues; the effort is made to compensate this lack by more rapid breathing.

Finally, difficulty in breathing may result from so-called asthma, a condition in which the patient is sensitized to certain types of substances in the environment. HYGEIA has published several articles on the subject of sensitization. Among these are:

Moore, C. Ulysses: Allergy (July 1932, vol. 10, p. 601).
Weyer, Elliott: Idiosyncrasy (June 1934, vol. 12, p. 508).

With so many possibilities, it would require a more or less detailed personal examination to ascertain the cause of difficulty in breathing in a particular case.

Abnormal Growth in Children

To the Editor:—Can anything be done to control abnormal growth in children? My daughter, aged 7, is as tall as the average child of 12. Her health is good, and she is of average intelligence. She has been manifesting a growing sensitiveness to her excessive height.

M. R. P., Alabama.

Answer.—Body growth is regulated by a chemical substance produced by the secreting cells of the pituitary body, a small gland located at the base of the brain. The pituitary gland furnishes another substance which stimulates the sex glands and without which the changes characteristic of puberty in both sexes cannot occur even if the sex glands themselves are normal. There is also a close connection between the activities of the pituitary gland and other so-called ductless glands, such as the thyroid and the suprarenals. The secretions of these glands are known as hormones and pass directly into the blood; for that reason these glands are known as glands of internal secretion. Rapid growth is often caused by overproduction of the growth hormone of the pituitary gland. It is possible to weaken the activity of the pituitary gland and so to reduce hormone production by means of the roentgen ray. A rather large dosage of the ray must be used, as small doses are stimulating and increase hormone formation. The difficulty is that the roentgen ray may inhibit the formation of the sex hormone so that the attainment of puberty might be delayed. This danger is lessened if the roentgen treatment is delayed until after puberty. Meanwhile it is not likely that the rate of growth will decrease of itself. Roentgen treatment should be given only by a person thoroughly familiar with its technic. An x-ray picture of the head will reveal whether or not the pituitary gland is enlarged.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Infant Morbidity and Mortality Rates

To the Editor:—Information is desired on infant morbidity and mortality rates.

H. M. McD., Ohio.

Answer.—No official records of infant morbidity are known. There is not much in the way of satisfactory reporting of morbidity in the United States. Except for communicable diseases, morbidity is not reportable by law; and consequently, except for community surveys and hospital studies, there is no way of arriving at a figure which would represent the general infant morbidity in the United States or even in any given community. Perhaps as much information as is available anywhere will be found in the publications of the White House Conference on Child Health and Protection, which are undoubtedly available in public libraries.

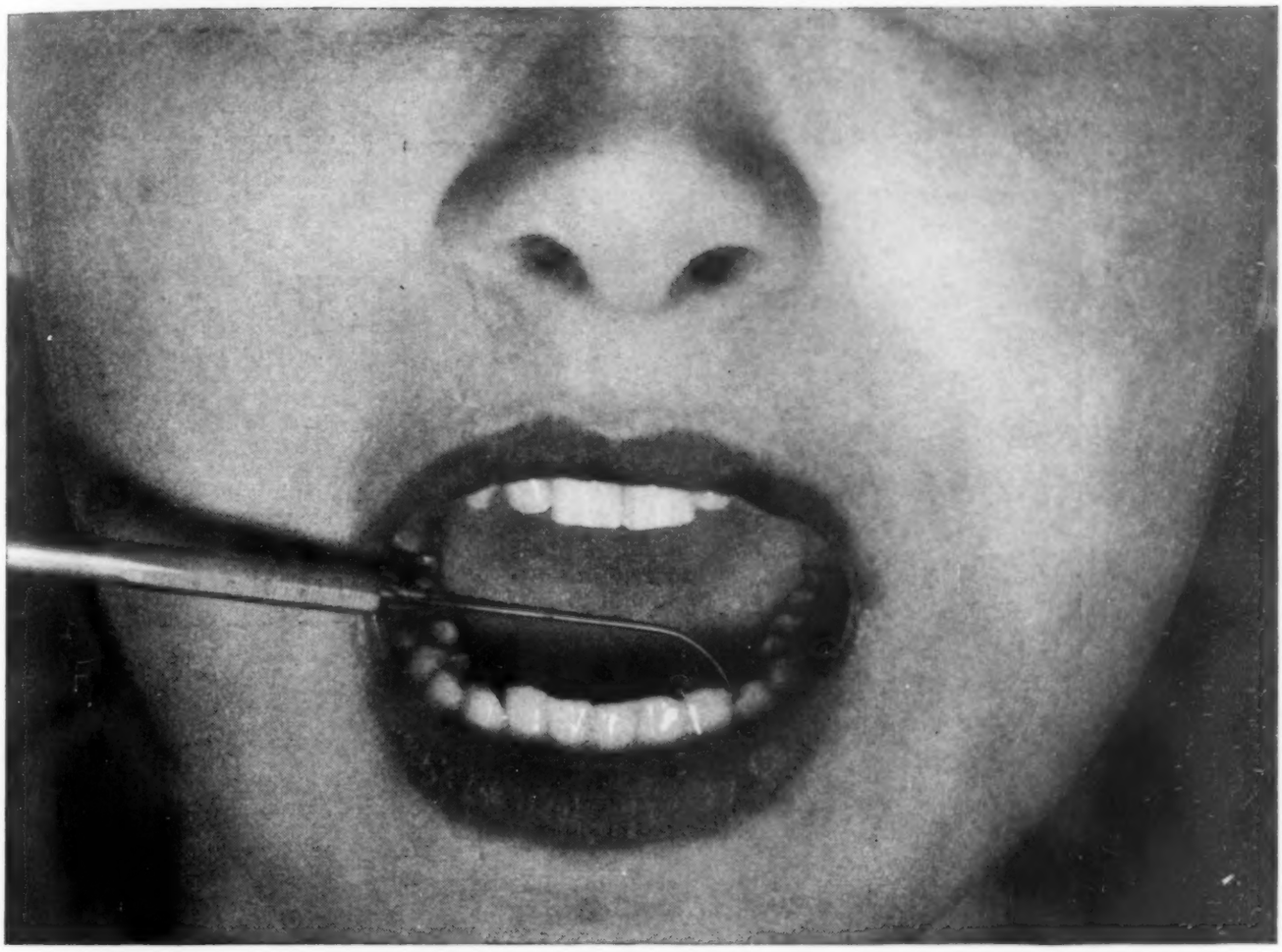
Infant mortality studies are made regularly by the United States Bureau of the Census and the United States Public Health Service. Publications of these official departments are also available in public libraries. In addition, studies of infant mortality rates in American cities have been made annually for a number of years by the American Child Health Association, and these are available, at nominal prices, from the association, which may be addressed at 50 W. 50th Street, New York City. These studies may also be found in public libraries.

Cancer and Alcohol

To the Editor:—Is there more cancer among alcoholics than among total abstainers?

F. C. L., Michigan.

Answer.—There is no statistical evidence that drinkers of alcohol suffer more from cancer than do nondrinkers. Cancer occurs with equal frequency in the two groups. Because of the nature of cancer, in which body cells take on rapid and uncontrolled growth as a result of some form of irritation, it is conceivable that the taking of alcoholic drinks might act as an irritant to the tissues with which they come in contact.



A Torturing Toothache *lurks in between*

TOOTHACHE quickly follows unattended decay. To escape its torturing pain... to save your teeth ... to avoid serious systemic disease from abscesses of teeth, all cavities must be detected promptly and filled while they are still small.

It is impossible for any dentist to find all cavities with instruments alone. Especially hard to detect is decay that starts on adjoining tooth surfaces. Therefore, even with periodic dental appointments destruction may reach the "nerve" before it is discovered.

But dentists have a positive means of detecting such "proximal" decay—the *Bite-Wing* x-ray examination. This examination shows exactly the conditions of adjoining surfaces that often are impossible to explore with the ordinary instruments. It gives a picture of even the smallest cavities. Proper filling then will cause little discomfort... will keep teeth alive and protect you from the dangerous diseases that dead teeth can cause.

The booklet, "How to Prevent Toothache," tells of the many benefits of preventive dentistry and the BITE-WING x-ray examination. Send the coupon for your free copy.

NRA CODE

X-RAYS HELP TO KEEP YOU WELL

EASTMAN KODAK COMPANY, *Medical Division*
349 State Street, Rochester, N. Y.

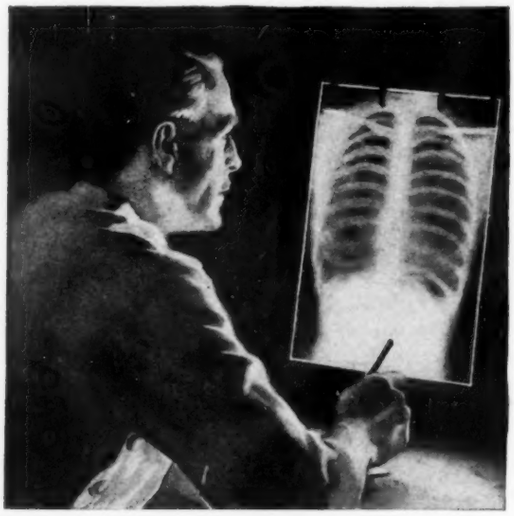
Please send me "How to Prevent Toothache."

Name _____

No. & St. _____

City & State _____

Fight Tuberculosis
with modern methods



If there are hidden shadows of the disease, they are revealed by the penetrating eye of the X-ray.

THERE were fewer new cases of tuberculosis in 1934. The deathrate from this disease in this country was lower than ever before. But this good news from those who are resolutely fighting tuberculosis should not blind one to the fact that about 70,000 persons died last year from tuberculosis and that it is still the leading cause of death between the ages of fifteen and forty-five.

When the suspicious symptoms begin to appear—undue fatigue, chest pains, loss of weight, a cough that hangs on, blood spitting—no time should be lost in getting an expert diagnosis. The value of such early diagnosis, aided by laboratory tests, X-rays or fluoroscope is reflected by the increase in the number of complete recoveries.

Since Dr. Trudeau blazed the trail fifty years ago and proved that "consumption" could be arrested, untold thousands have been restored to health by following the treatment of fresh air, sunshine, nourishing food and REST.

Physicians, today, have at their command another ally which is proving of great value in many cases, though not suitable for all—pneumothorax or lung-collapsing treatment. The expert can, if he thinks wise, collapse an infected lung as long as is necessary and let the other lung do the breathing. The infected lung heals more quickly during its enforced rest. This treatment, under competent and continued medical care, is speeding a steadily increasing number of recoveries in sanatoria and homes.

Tuberculosis, recognized and treated in its early stages, can be arrested and controlled in most cases. Send for the Metropolitan booklet "Tuberculosis." Address Booklet Department 435-Z.

METROPOLITAN LIFE INSURANCE COMPANY
FREDERICK H. ECKER, PRESIDENT ~ ONE MADISON AVENUE, NEW YORK, N. Y.
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Essential Elements in the Human Body

To the Editor:—Can you give me a simple formula of the chemistry of the human body, showing the percentage proportions, or weight in pounds or multiples, of each element?

N. W., Pennsylvania.

Answer.—There is no such thing as a simple formula for the chemistry of the human body. The chemistry of the human body is a complex and complicated process which is not fully understood by research workers who have devoted their lives to it and who have had the benefit of the lifetime work of other observers.

A simple tabulation of the essential elements contained in the human body is given by Prof. H. C. Sherman in his book "Chemistry of Food and Nutrition":

Element	Approx. Per Cent in Body
Oxygen, about	65.
Carbon, about	18.
Hydrogen, about	10.
Nitrogen, about	3.0
Calcium, about	1.5
Phosphorus, about	1.0
Potassium, about	0.35
Sulphur, about	0.25
Sodium, about	0.15
Chloride, about	0.15
Magnesium, about	0.05
Iron, about	0.004
Iodine, about	0.00004
Fluorine, Silicon, Perhaps other elements	very minute amounts

The composition of the human body in percentages is briefly set forth in the table above. It is important to note that though the table is arranged in order of quantitative occurrence, the quantity of a given element does not necessarily indicate its importance. Some of the constituents which are present in infinitesimal amounts are necessary to life, nevertheless.

The body also contains manganese which is not on the above list.

There was also a popular statement at one time to the effect that for approximately 98 cents all the ingredients composing the human body could be purchased in the amounts in which they occur in an average individual.

It is to be remembered, however, that the human body is a living organism and that the processes of life are only imperfectly understood. Therefore, when we know that the dead human body contains certain percentages of certain elements, we have progressed only a short way on the long road to a comprehensive understanding of the chemistry of the human body.

A famous American was once asked what one thing he would do, given the necessary power, to make the world a better place in which to live. He replied, "I would make health contagious instead of disease."

Do You Know—

1. What are some of the dangers of "advertised cures"? *See page 305.*
2. How "athlete's foot" is usually contracted? *See page 310.*
3. What is one of the commonest disorders of the circulation which affect individuals in middle life? *See page 312.*
4. What is the best way to discourage the "smarty" manner in children? *See page 315.*
5. What are the symptoms of the childhood type of tuberculosis? *See page 318.*
6. What is the wisest procedure in treating a harvest-mite bite? *See page 322.*
7. What the advantages of gold fillings are? *See page 326.*
8. Where there is a famous school where the blind can become readjusted to life in spite of their handicap and where the group becomes famed as artisans at the loom? *See page 334.*
9. For what medicinal remedies we are indebted to the early South American tribal medicine man? *See page 342.*
10. If one eye is infected, how should the other eye be protected? *See page 346.*
11. What is the value of pasteurization in milk? *See page 350.*
12. Why coffee is not a beverage for children? *See page 354.*
13. Of what famous doctor, whose birth and death both occurred in April, the following was said: "It was the combination of scientific achievement with a broad knowledge of affairs and an ever-present and sympathetic interest in human welfare that gave him the influence he had"? *See page 338.*
14. Who has been called the first microbe hunter? *See page 321.*

SOUND TEETH
for Baby

Vitamin C and mineral salts are more highly retained in Heinz Strained Foods than in most home-prepared vegetables

SOUND teeth and gums are a priceless heritage. That is one reason why so many mothers are paying careful attention to all the nutritional qualities of all the foods given to their babies.

Impartial scientific tests prove that Heinz Strained Foods retain a higher content of teeth-building Vitamin C, as well as calcium and phosphorus, than is possible with ordinary home methods. This is true also of the other natural vegetable vitamins and mineral salts.

Heinz cooks and strains ***hours-fresh*** vegetables by means of a process scientifically designed to retain these precious nutrients to high degree—then vacuum-packs them in enamel-lined tins. You merely warm them.

Feed Baby Heinz Strained Foods, and be sure, winter and summer, that he is getting a uniformly high quota of vitamins and minerals.

VALUABLE BABY DIET BOOK—*"Modern Guardians of Your Baby's Health"* is packed with up-to-the-minute facts regarding infant care and feeding. Send labels from 3 tins of Heinz Strained Foods and 10 cents for your copy. Address H. J. Heinz Co., Dept. H204, Pittsburgh, Pa.

ACCEPTED AMERICAN MEDICAL ASS'N Committee on Foods

A GROUP OF THE **57** VARIETIES

Eight Kinds
PEAS
GREEN BEANS
SPINACH
CARROTS
TOMATOES
BEETS
PRUNES
STRAINED VEGETABLE SOUP

HEINZ
Strained Foods

Baby Garments

More than 20,000 doctors and nurses recommend VANTA garments for the first two years.

Vanta Features

Silva Lining....

a special single-thickness fabric...soft and super-absorbent...gives utmost protection...no wool can touch the baby's tender skin.

Sterilized....

all VANTA layette garments are 100% steam sterilized by a special auto clave process ...no danger of infection... sealed in Cellophane window packages.

No Pins, No Buttons....

the VANTA garments for small babies are equipped with fastenings of twistless tape...a perfect safeguard for tiny fingers.

Look for This Mothercraft Emblem

When buying layettes, ask your store to have a graduate of the Mothercraft course of training wait upon you. It means a year of hard study which makes a girl a professional saleswoman on all Infants' Wear.

WRITE FOR FREE BOOKLET... "Baby's Outfit" tells about preparing for motherhood; selecting baby's layette, etc. Contains 500 suggested names for boys and girls. Address Dept. H-4.

Earnshaw Knitting Company

Newton, Massachusetts

SCOUTS PLAN JAMBOREE TO COMMEMORATE SILVER JUBILEE

"Sorry, sir! Thank you just the same. A boy scout doesn't accept tips for doing his good turn." These words, spoken by an English boy scout after he had done a good turn for William D. Boyce, Chicago publisher, lost in a London fog, were the inspiration for the founding of that great youth movement in this country, Boy Scouts of America.

One million boys, members of Boy Scouts of America, are now looking forward to the commemoration of the twenty-fifth anniversary of the founding of the organization in this country, when it will be celebrated by the Boy Scout Jamboree in Washington, D. C., from August 21 to 31 of this year. President Franklin D. Roosevelt, honorary president of all the scouts, has issued the invitation to the scouts to meet in the nation's capital. Between 30,000 and 50,000 scouts will attend.

This celebration will be eagerly awaited, not only by the active membership of Boy Scouts of America but by the millions of men who once were scouts.

The boy scout organization was founded in this country in 1910, three years after its inception in England in 1907. The American movement was chartered by act of Congress in 1916. The original movement in England was sponsored by General Baden-Powell and was called Scouting for Boys. Scouting now exists in seventy-three nations of the world, enrolling over 2¼ million men and boys. Nearly 1 million of these are in the Boy Scouts of America. Nearly 7 million men and boys have been in scouting in the United States during the past twenty-five years. Throughout that period, scouting has gone forward under the leadership of the Chief Scout Executive, Dr. James E. West.

From 1910 to 1915, the scouts toiled ceaselessly at the Gettysburg reunion encampment of the Confederate and Union veterans, trying to assist the aged men.

From 1915 to 1920, scouts sold 400 million dollars worth of Liberty bonds and War Saving stamps, assisted in gardening and helped the Red Cross in its war and post-war work.

From 1925 to 1930, scouts assisted in Florida following a hurricane, in St. Louis after the tornado and in the devastated Mississippi Valley region after the floods.

From 1930 to 1935, scouts collected toys, clothing and furniture for the needy, in response to a call from President Roosevelt.

SEX EDUCATION

New Booklets by THURMAN B. RICE, M.D.

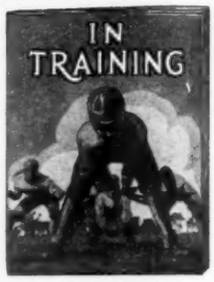
Modern without sacrificing fundamentals. Frank, but not sensational. Illustrated.

For Boys and Girls of Ten

How life comes from life—How flowers are born—Male and female functions in fish, frogs, turtles, birds, calves, colts, kittens and human beings—Simple facts about sex hygiene. **36 pages**

For Boys of High School Age

How sex influences every minute of life—Clean sports—The fun of hobbies—The miracle of Life—Human mating—Purposes, physiology and hygiene of sex—How marriage protects the race. **48 pages**



For Girls of High School Age

Motherhood, the great career—How reproductive organs function—Menstruation, its physiology and hygiene—Athletics for girls—True feminine attractiveness—Going out with boys—Marriage. **38 pages**

For Both Sexes of College Age

Training for happy home life—Sex feeling of male versus female—Control: a mutual responsibility—Premarital understandings—Planning for parenthood—Ideal honeymoon—Two purposes of sex. **44 pages**

For Persons of College Age or Older

Prevalence of venereal diseases—Effects on individual and on society—Syphilis and its transmission—Protective measures—Symptoms and stages—Gonorrhea and other diseases. **40 pages**

Heavy paper covers *25 cents per copy*

Complete set of five in special filing case, $1.00

AMERICAN MEDICAL ASSOCIATION

537 North Dearborn Street Chicago

YOUTH CELEBRATES OWN ACHIEVEMENTS IN GALA PAGEANTS

Boys and girls all over the world will celebrate their week, Youth Week, beginning April 27 and ending May 4. Gala celebrations, pageants, excursions through places of industry and educational spots, and special radio programs during that week will be dedicated to youth.

Youth Week is a natural outgrowth of Boys' Week, which originated in 1920 through the Rotary Club of New York City. In a few years this movement has spread to all parts of the world. With the growth of Boys' Week, there developed the feeling that girls as well as boys should be publicly recognized during the week. So Boys' Week was changed to Youth Week, and the girls' activities were included in the suggestions sent out by the National Youth Week Committee for the United States, which has its offices in Chicago.

In a pamphlet published by the committee and distributed among schools and civic organizations throughout the country a Youth Week program is outlined. Some of the suggestions are:

1. Parades and school pageants with achievement exhibitions, hobby shows or pet shows may be run by the children. Everything which youth has done should be exhibited.

2. Groups of school boys and girls should be allowed to visit and study varied types of industries in the community. Have them write compositions later, giving their impressions of the way in which the industry is run.

3. Encourage boys and girls to make an inventory of their homes, to find out what the medicine chest contains that would be of assistance in all sorts of accidents.

4. Business men and women should give vocational counsel to boys and girls by discussing with them the salient features, unattractive as well as attractive, of various vocations.

5. Special luncheons should be given in honor of school athletic teams.

6. Allow the youth of the community to edit a page in the local newspaper to include editorials, news articles pertaining to Youth Week and pictures of junior city officials together with a report of their election.

7. Have an election at the schools in which boys and girls are elected to various elective offices of the community, and follow this up by arranging, if possible, for city officials to allow the boys and girls elected to office to serve at least part of the day in office.

How Long Since You Last Opened This Door?

YOUR Dentist's doorway leads to more than just repair of the teeth. It leads to prevention of many bodily ills. How often do you visit his office?

Your health and happiness in large measure depend upon work that only a Dentist can do. Eminent medical authorities assert that more than 85% of bodily ills have their inception in the mouth. Many of these diseases can be prevented by having a Dental Prophylactic Treatment every three months.

Between visits to your Dentist the regular use of a good tooth paste is advisable. It cleans the *accessible* surfaces. It *helps* combat tartar. It *partially* controls decay germs. It makes the teeth brighter and more beautiful.

But don't expect too much of your dentifrice. No dentifrice can prevent tooth and mouth disorders without the frequent aid of your Dentist. With X-ray and efficient instruments he inspects your mouth, detecting and correcting disease and decay before they cause serious painful trouble. He *thoroughly* cleans the teeth—the hidden crevices which your toothbrush *cannot* reach between the teeth, beneath the gum margins. Regular visits to your Dentist (at least every three months) for cleaning and inspection add to personal charm. They are painless—they save expense in the long run. They are called Dental Prophylaxis.

We earnestly urge you to adopt the health-wise habit of periodic Dental Prophylaxis. Then aid your Dentist by using a safe, effective dentifrice which he recommends.

The American Dental Association, through its committee of scientific analysts called the Council on Dental Therapeutics, makes careful laboratory tests of the many preparations offered its members for use at home and at the chair. Only to those that pass these tests for safety and honesty of advertising do they award the "Seal of Acceptance."

The safest way to select your dentifrice is to look for the A.D.A. Seal of Acceptance on the package—*proof* that the most enlightened professional opinion has passed upon it.

You will find this seal of confidence on every tube of Iodent Tooth Paste—Iodent Number 1 for teeth easy to Bryten and Number 2 for teeth hard to Bryten.

ACCEPTED AMERICAN DENTAL ASSOCIATION

It is logical that Iodent is chosen by many of these health-wise folks, because it is absolutely safe, unusually effective, and delightfully flavored.

IODENT

Use Marcelle Cosmetics to Avoid Allergic Reactions

A simple way to avoid allergy* from face powder, rouge, lotions and creams, is to use Marcelle Cosmetics.

They are U. S. P. pure and comply with the standards of the American Medical Association as to formula and claims. But the manufacturers of Marcelle Cosmetics recognize the fact that many women are hypersensitive to certain substances ordinarily used in cosmetics, such as orris root, rice powder, and other irritants. No matter how pure the cosmetics may be, these ingredients may cause allergic disturbances—sneezing, watery eyes, and even more serious manifestations.

Therefore Marcelle Cosmetics are made without these ingredients. They are non-allergic and can be safely used by hypersensitive women.

* Unusual susceptibility to certain harmless substances, shown by pimples, blotches, sneezing, coughing, running eyes, etc.

Write for free booklet, "Facts Concerning Marcelle Non-allergic Cosmetics."

"U.S.P. PURE"
Marcelle
COSMETICS
—NON-ALLERGIC—

If your dealer cannot supply you, use this coupon for ordering Marcelle Non-Allergic Face Powder, Rouge, Cleansing or Cold Cream, or Lotions—50 cents each for generous medium size.

MARCELLE LABORATORIES
1745 North Western Avenue, Chicago.

Enclosed is $..... for ..... Marcelle Face Powder (..... shade), ... Marcelle Cream, ... Marcelle Rouge, ... Marcelle Lotion.

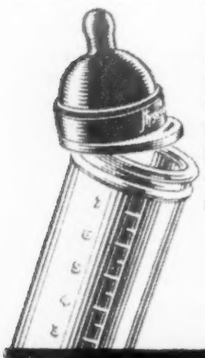
Name.....

Address.....

Dealer's Name.....

Avoid dirt!

Food contamination is a frequent cause of intestinal disorders, still the greatest cause of infant mortality. Play safe. Use this wide-mouthed bottle. It has no neck or shoulder to collect sediment in which germs may breed. As easily cleaned as a water glass. No funnel or brush needed to fill and clean it—two extra hazards of *dirt*.



The Hygeia Breast Nipple is made of soft moulded rubber. It does not become porous. Even with constant use, germ-breeding particles cannot become imbedded in walls. Reinforced base resists nipple collapse.

Folder in carton explains amazing FREE replacement on broken bottles

HYGEIA
The Safe Nursing Bottle

WILLIAM HENRY WELCH

(Continued from page 357)

Japan. Early in the following year the first copy of a memorial volume, recounting this world-wide celebration, was presented by John D. Rockefeller, Jr., to Dr. Welch at a dinner held in his honor at the Maryland Club in Baltimore.

The dry-point portrait by Alfred Hutty and the photograph of Dr. Welch with President Hoover, reproduced in the volume mentioned, show his appearance at 80 years; and the Sargent portrait of "The Four Doctors" perpetuates his likeness when he was many years younger. A talking moving picture in which Dr. Welch can be seen and heard describing the early days at Johns Hopkins will be of great interest in future years, since it is a good reproduction of his voice, his speaking posture and his gestures.

Dr. Welch was short in stature and somewhat obese; in body build and in emotional temperament he was of the type that makes intercourse with his fellows easy, a trait that is often observed in persons of unusual executive ability. In addition to his extraordinary intellectual powers, which compelled great admiration and high respect, he possessed the qualities of feeling and of will that quickly made him beloved by all who came to know him well. The students and many of the staff were so fond of him that they usually spoke of him as "Popsy" Welch. He enjoyed life hugely; and though his greatest satisfactions were intellectual and social, he was by no means indifferent to the more material pleasures. He ate well, he enjoyed good wine in moderation, and he smoked many of his favorite cigars. For many years he was to be seen regularly at professional baseball games. He was unmarried and lived simply in his suite of rooms on St. Paul Street, taking his meals at the nearby Maryland Club or the University Club. He enjoyed excellent health except for a few attacks of gout, until near the end of his life. For a little more than a year before he died, April 30, 1934, he was confined as a patient in the hospital he had served so well for fifty years.

He once said that he, like Lord Haldane, had no desire to live his life over because one could not count on having again such good fortune. He thanked the time, the opportunity for study in Europe, and the friendship and the loyalty of his pupils and associates for much that he had been able to do.

The career of Dr. Welch may serve coming generations as an inspiring example of the possibilities of acquisition of profound knowledge and wide medical experience, of the sound judgment, the worldly wisdom and the traits of genial and impressive personality that win the confidence of men, and of the leadership that comes to one who loves truth for its own sake and pursues it and who, early blessed with a vision of what is desirable for his profession, uses his great powers vigorously, unceasingly and unselfishly to make his dreams come true. Cautious about prediction, he nevertheless was always confident that medicine would gain ever increasing powers to relieve human suffering, to control disease, to improve health and to add to the sum of human happiness and well being.

As Professor Howell has said of Dr. Welch, he was a notable example of the cultured mind and of the understanding heart, always saying the right things in the right way. Gifted with a magnetic personality that attracted and charmed, he not only stood high in the estimation of the medical men of his time but was a most beloved and sincerely respected member of the local groups in which he lived and worked.

The secret of happiness lies in the health of the whole mind and in giving each faculty due occupation.

—*The Hoosier Res-Cuer.*

Public health is the only great social goal which still has practically universal approval. True, it has not yet reached the status in controlling all public conduct to which it will necessarily reach some day. True also, public health both in principles and in practice is still far from full development everywhere. But it is also true that more is already known of those principles than is or can be generally applied under present day conditions; also that more is already being applied than is fully understood or appreciated by those for whose needs and service it is operating. But even so, what other great social goal—governmental, economic, moral—commands so practically universal an allegiance? Is not every other proposed social goal regarded with skepticism, suspicion or even hatred by one or more great sections of mankind? Yet every nation, and almost every class in every nation, according to its lights, approves public health and seeks it. Methods and names may differ but the goal is the same.—*H. W. Hill, Md.*

OBSERVE TWENTY-FIRST ANNIVERSARY OF NATIONAL NEGRO HEALTH CRUSADE

"The future of the Negro race depends on the conservation of its health." Inspired by these words spoken by their leader and the most beloved member of their race, Booker T. Washington, the entire Negro population will commemorate his birthday by observing the twenty-first annual National Negro Health Week, April 1 to April 6. Booker T. Washington, who was born April 5, 1856, proposed the first health week for his race and also founded the Tuskegee Institute, first institution dedicated to Negro education.

In referring to the Negroes who live in this country, he said that they were "a health asset or a health hazard in proportion to their knowledge of hygiene and their capacities to exercise sanitary control of their homes and premises." The Negroes now constitute one tenth of the entire population of the United States.

Although much has been done since the days when 45 per cent of deaths among Negroes were preventable, disease still takes a heavy toll. Tuberculosis and the venereal diseases constitute a health problem of gigantic proportions among the Negroes of the United States; and pneumonia, malaria and cancer increase the mortality rate in the middle age of the Negro group. The life expectancy of the Negro is ten years shorter than that of the white man.

National and state contests to promote Negro health have been a part of the program instituted by Booker T. Washington. This program, which becomes a year round program, affords numerous avenues of approach to the health problems, including cooperation with health officers and health agencies to ascertain facts and determine methods of procedure; contact with state and local Negro organizations to secure interest in the problem and support of measures sponsored by the state and local health officers; the training and employment of Negro public health nurses; physical education and medical, dental, nutritional and nursing services in the Negro schools, and a constant campaign for an understandable workable relationship.

CONFERENCE ON HEARING

The 1935 conference of the American Federation of Organizations for the Hard of Hearing, Inc., will be held in Cincinnati, June 2 to 6 inclusive. Headquarters will be at the Netherland Plaza Hotel.

Lucky baby... his skin is protected by this Waterproof powder

Is there anything more heart-warming than a baby's joyous, gurgling laugh? Such laughter comes from a happy baby —and a baby can be happy only when his tender skin is healthy and *comfortable.*

Merck Zinc Stearate, the *waterproof* baby powder, is the secret of many a baby's happy disposition — because it forms a delicate, dry, protective film on the skin that prevents irritating diaper rash and chafing from perspiration.

Merck Zinc Stearate is a pure, fine powder, soothing to baby's skin, satin-smooth to touch. And it's put up in a can with a *self-closing* top—an essential safeguard for any powder used in the nursery.

Your physician and druggist will tell you that the name Merck on any product is a guaranty of purity and reliability. Merck & Co. Inc., *Manufacturing Chemists,* Rahway, N. J.

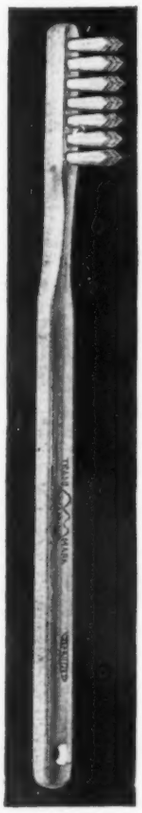
MAKE THIS WATERPROOF TEST TODAY

Shake some ordinary powder into the palm of your hand. Then pour a little water onto the powder and rub gently with your finger. You will find that the powder absorbs the water and forms a paste. This happens when baby's skin is wet.

Now make the same test with Merck Zinc Stearate. You will find that this waterproof baby powder does not absorb the water—that the water stays on top in little round drops. That explains why Merck Zinc Stearate protects baby's skin.

MERCK ZINC STEARATE

THE ONLY BRUSH YOU SHOULD USE—



IS THE TYPE BEST ADAPTED TO MOST EFFICIENT BRUSHING!

Dr. W. M. Gardner, in Hygeia, Oct. 1934 issue, recommends this type as best adapted to most effective brushing. And thousands of dentists who use only TAKAMINE Toothbrushes attest to their excellence from every point of view! Small scientific head, fine quality bristles, straight handle, sterilizability in boiling water (won't distort rigid bamboo handle)—are all recommended features that should make TAKAMINE *your personal toothbrush.*

Its name is T·A·K·A·M·I·N·E

SPECIAL OFFER TO HYGEIA READERS—

If your druggist cannot supply you, send 60c *to us direct for* INTRODUCTORY PACKAGE *of* 6 TAKAMINE TOOTHBRUSHES (*regularly* 75c).

TAKAMINE
Corp. : 132 Front St.
NEW YORK CITY

ACCEPTED AMERICAN MEDICAL ASS'N

for nursing and expectant mothers

● All the food essentials required for your child's needs...for straight bones...sound teeth...must come from the food you eat.

To help safeguard both yourself and child *drink regularly plenty of milk* mixed with Cocomalt. This delicious food-drink provides *extra* proteins, carbohydrates, minerals (food-calcium and food-phosphorus) and Vitamins A, B, D and G. Sunshine Vitamin D is that important vitamin which is necessary for the formation of bones and teeth.

Accepted by the Committee on Foods of the American Medical Ass'n, Cocomalt is composed of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Vitamin D (irradiated ergosterol). Easy to mix with milk—delicious HOT or COLD. At grocery and good drug stores, or send 10c for trial can to R. B. Davis Co., Dept JA4 Hoboken, N. J.

Cocomalt
The delicious Vitamin D food-drink

THESE TEETH OF MINE

(Continued from page 333)

A germ will poke around its edges a bit and move on; that is, provided it is an ideal gold filling.

For that reason soft teeth above all others demand gold; they require, like weak children, the best chance one can give them for survival. Gold foil, in the right hands and in places where its shortcomings do not operate to disadvantage, gives the armor joint par excellence; but it too has drawbacks. In some places it cannot be perfectly condensed; there are breaches then in its margins, and its surface flakes off. Moreover it is soft; it pits or flows under biting stress. It does not lend itself to correction of chewing relationships where that is necessary.

The gold foil filling is exceedingly trying to construct in the mouth if the tooth cavity is large; it is exasperating for both the patient and the dentist. Still this is not always true, for I have known perfectly sober patients to go fast asleep during the tap-tap-tapping of a gold foil filling. They wake up uncertain whether to be ashamed or proud of having slept in the dental chair!

When the gold inlay was invented, all the dentist's filling problems were supposedly solved! The enthusiasts threw away their gold foil instruments! Now one wonders how in the world any one could have developed enthusiasm for the inlays of that day! Many were veritable "floating islands," a jelly center of gold floating in cement custard. The cement washed out, to the edification of Bacillus acidophilus.

My old college textbook on porcelain inlays closed with this sentence: "Inlays have also been made of gold and silver." The modern cast gold inlay did not appear until several years later. It has since become the backbone of modern dentistry.

The cast gold inlay is the dentist's adaptation of an ancient art, used long ago by sculptors, used by the Toltecs in Mexico and by the Chinese in the days of Confucius. Its principle is that of the disappearing wax pattern.

The cavity is prepared so that the filling will slide in or out, but so that biting pressure will slide it in and not out. A wax filling is made in the cavity or in an amalgam die which is a reproduction of the tooth and cavity. This wax pattern is removed, mounted on a pin and enveloped in a mold of plaster-like composition. When the mold is hard, the pin is withdrawn, leaving a hole leading down to the wax. The mold is then heated; the wax vaporizes, leaving the mold empty, with the pinhole leading down into it. Gold is melted and forced through the hole and into the mold, under air pressure. The first inlay I made was cast in a tomato can. I forced the gold into the mold by centrifugal force, by swinging the can tied to the end of a string, around my head. Centrifugal force is still used, but not the tomato can.

For those first inlays the only hard casting gold available was that of gold coins. Now there are hard and soft golds available; there are also tough and brittle golds; white, red and yellow golds. There is a gold for every purpose and every taste.

When gold cools from the fluid state to room temperature, it shrinks 1.25 per cent in volume. That was the cause of those "floating island" inlays. It is now possible to expand the wax pattern and the mold approximately 1.25 per cent to offset the shrinkage of the gold.

The cast gold inlay is of outstanding importance because it offers the best possibilities for correction of chewing relationships; also because, well made, it combines the good qualities of both cement and gold, and because a goodly portion of the work is done in the laboratory rather than in the patient's mouth.

For the front teeth there are fillings of translucent cement and baked porcelain inlays, both of which approximate the color of the tooth. Neither is as permanent as gold, but gold in front teeth has fallen into disfavor. The translucent cement is known by a variety of names, even including the name porcelain; it really is the old time "bone" filling with finely ground glass sifted through it to give it the translucence which makes it lifelike. But it disintegrates in the saliva particularly at the gumline margin of the filling, where the saliva is more acid. A filling which appears quite satisfactory may be badly disintegrated at that point, with caries spreading under the filling. Each time the cavity is refilled it is made larger. In the end the tooth is ruined.

The porcelain inlay is baked in one piece and cemented into the tooth. The filling is built up by repeated bakings in an electric furnace at temperatures ranging around 2400 F. It looks good and is the favorite of the movie stars, but it is more costly than gold and not as desirable from any standpoint except that of appearance.

If I have stressed the faults of the various fillings rather than their virtues, that is the proper frame of

THESE TEETH OF MINE

mind for a dentist. The virtues take care of themselves. It is the faults with which he is constantly struggling; trying to avoid or lessen them, or bowing to them in the selection of some other filling. But faults may be minimized or virtues increased by good technic and patient effort. That is why fillings of a given classification do not always have uniform virtues.

One of the greatest problems of tooth filling and of all dentistry is the patient. He is the silent partner in all operations. He is the cause of much inferior dentistry.

[NOTE.—In the May issue, Dr. McLean's topic will be "The Live Topic of the Dead Tooth."]

A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS

(Continued from page 357)

water makes sufficient coffee for five cups. In other words, two thirds of a measuring cupful is a serving of coffee. The best coffee is produced at a temperature between 185 and 200 F. Boiling should be avoided ordinarily as the desired flavorsome essential oils are thereby boiled away and the flavor or aroma is dispersed in the room instead of in the coffee. Soft water is much better than hard or alkaline water for coffee making. Boiled water has a flat flavor. However, before making coffee, scald the pot with boiling water.

The drip method is by far the most popular and successful. Shake the measured coffee down into the container to pack it, and pour the water, practically at the boiling point, into the top compartment. In order to produce clear coffee, the size of holes in the dripper must be correct; filter papers are often used for greater clarity, and in some types of French drip pots, a muslin bag is used which must be rinsed according to directions provided with the coffee pot. Ordinarily three minutes dripping time for each cup of water is correct. It is advisable to repour one cup as this has a tendency to stir the beverage and extract some of the body that might otherwise be lost.

For percolated coffee, it is slightly better to start with hot water. About seven minutes should be sufficient, counting from the time the liquid is slightly colored as it comes through the tube. The time allowed for percolating varies from five to ten minutes. The valveless percolator is undesirable since in this type the coffee is made at a higher temperature. Violent boiling or percolating should be avoided.

(Continued on next page)

JOHNNY HAYNES, YOU KEEP AWAY FROM THAT COOKIE JAR. YOUR HANDS ARE ALL DIRTY FROM PLAYING
Cookies
AW GEE! THEY'RE NOT SO AWFUL DIRTY
NOW, JOHNNY, DON'T ARGUE! GO RIGHT INTO THE BATHROOM AND SCRUB THOSE HANDS, THEN YOU MAY HAVE A COOKIE
AT A FRIEND'S—
SO THAT'S THE LIFEBUOY WASH-UP CHART YOU'VE BEEN TELLING ME ABOUT. I'LL SEND FOR ONE FOR JOHNNY
Lifebuoy WASH-UP CHART
YES, DO, MRS. HAYNES. YOU'LL NEVER HAVE TO WORRY ABOUT DIRTY HANDS AGAIN. SEE, IT'S LIKE A GAME
A MONTH LATER—
NOW, JOHNNY, ARE YOUR HANDS CLEAN?
APRIL FOOL, MOM! LOOK HOW CLEAN THEY ARE AND JUST TAKE A LOOK AT MY CHART. ALMOST A PERFECT CLEAN HANDS SCORE

THAT it's useless to try to scold modern children into doing what they don't want to do. But make the disagreeable duty attractive, make it seem *fun,* and see how quickly they change their minds!

It's just that way with washing hands. What he-man youngster is willing to wash his hands as often as you think necessary? . . . Well, here's a way to make him do it, and make him *like* it! The Lifebuoy Wash-Up Chart. This Chart has proved a happy solution to the dirty hands problem of thousands upon thousands of mothers. Simply because it makes a *game* out of keeping clean. Each wash-up, bath and shampoo scores a point. For a good score, there's the reward of a Health Guard Button and "Whoopo", the spin-win-grin game. By that time cleanliness has become a habit—to stay with him all his life.

The Wash-Up Chart teaches a valuable lesson, besides, in an interesting picture-story. How hands pick up germs that breed disease from practically everything we touch—and how washing hands regularly, *especially before meals,* with Lifebuoy Soap, helps safeguard health by removing not only dirt but *germs* as well.

You'll like Lifebuoy for your own use, too. Its super-mild lather is wonderful for complexions. Try it.

FREE: Take advantage of this service to mothers. Send in the coupon below and get a Lifebuoy Wash-Up Chart and school-size Lifebuoy Soap free for each of your children. See how quickly they take to washing-up this enjoyable way.

NRA CODE

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Health Soap
FOR FACE, HANDS, BATH

(This offer good in U. S. and Canada only)

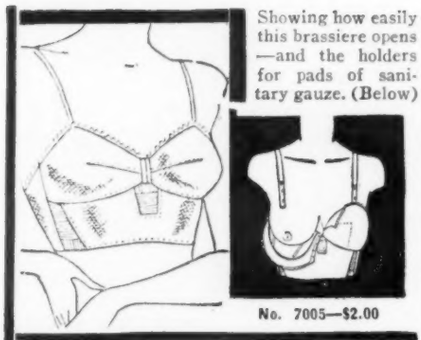
LEVER BROTHERS CO., Dept. 194, Cambridge, Mass.

Please send me, free, Lifebuoy school-size cakes and Wash-up Charts for my____children.

*Name*_____

*Address*_____

*City*_____ *State*_____



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PLEASE MENTION HYGEIA WHEN WRITING ADVERTISERS

A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS

To make boiled coffee, place the measured coffee and cold water in the pot, and allow it to come to a boil. Remove it from the fire for a few seconds; replace and allow it to boil up again. Then remove the pot to a cool part of the stove, and pour a tablespoonful or two of cold water down the spout to settle the grounds. An egg white mixed with the ground coffee before it is cooked will make a clearer beverage. Continued boiling should be avoided, and if it is necessary to keep the coffee hot, it should be placed over an asbestos pad or a low wattage electric unit to permit heat retention without boiling.

Glass coffee makers, such as the one illustrated, extract the strength of the coffee quickly, as finely ground coffee must be used. The proportions of coffee and water are the same as those used in other types of coffee makers.

Steeping is a method in which boiling water is poured on loose coffee or a muslin bag of coffee resting on the bottom of the pot. The coffee is allowed to steep for ten minutes and is then poured off. The beverage should not be allowed to stand on the grounds.

The coffee pot should be scoured each time after it has been used, in order to remove the brown stain or sediment, which might cause a stale rancid flavor in the beverage. Use scouring powder on china pots and fine steel wool on metal pots. Use a thin brush to clean the spout. Occasionally boil the pot for ten minutes with a pinch of soda, and rinse it in hot water. Store the pot uncovered to allow it to become aerated. A metallic flavor may be imparted to the beverage if the pot is made of brass, steel, iron or copper that is not coated with tin or chromium. Coffee pots of glass, porcelain, stoneware, vitrified ware or enamel which is not chipped or worn off are considered finest for coffee brewing. Most persons cannot detect a metallic taste in coffee since it is masked by cream and sugar.

The cream should be covered in the refrigerator to prevent the absorption of onion or other flavors. Fresh coffee properly roasted, fresh hot water, proper extraction and 20 per cent cream make a beverage unequaled.

There is an accurate coffee measuring spoon on the market and there is also an automatic measuring device, equipped with a lever which may be pushed aside to allow the correct amount of coffee for one cup of water to come through the opening. A single service drip coffee maker which may be set over a teacup for making one cup of fresh drip coffee is also available.

It is a well known fact that caffeine is often prescribed by physicians as a mild and helpful stimulant. Caffeine is not habit forming; in fact many persons find that with advancing years, smaller quantities are desired for the stimulating effect. People vary in susceptibility to caffeine; some are easily affected by small quantities, while others show little reaction to moderate doses. An average cup of coffee contains approximately from 1.5 to 2 grains of caffeine.

Many times a physician forbids a patient to drink coffee, but decaffeinated coffee can be used where other coffee has been forbidden. Decaffeinated coffee is essentially coffee with almost all the caffeine removed. It retains the coffee flavor and may be drunk without causing sleeplessness or nerve excitation. Ordinary coffee is harmful to persons who suffer from insomnia, nervousness, or digestive disorders, and to those who are hypersensitive to stimulation. Since there is scientific proof that caffeine makes a child nervously unstable and restless, it may be considered injurious to all children.

Modern manufacturing methods remove 97 per cent of the caffeine in the preparation of high grade decaffeinated coffees, with little loss of flavor and aroma. Decaffeinated coffees are tested to assure conformity to the limited caffeine content, and they are roasted and packed under reduced pressure in hermetically sealed tins.

Decaffeinated coffee may be drunk without causing sleeplessness or nerve excitation. The coffee is brewed in the same manner as ordinary coffee except that it should be percolated twice as long as usual. This type of coffee has been greatly improved in recent years by the manufacturers. It is essential, however, to make it sufficiently strong to appeal to the average taste.

The Committee on Foods of the American Medical Association has investigated and accepted claims made in the advertising of the brands which bear the Seal. Acceptance may be obtained only by submission of the product in accordance with the rules of the Committee and agreement to subsequent compliance with the rules.

There are various cereal beverages on the market. These products are prepared to be as similar as possible to coffee in flavor and to take the place of coffee where coffee is proscribed.

A cereal beverage which has been accepted by the Committee on

A HOUSEWIFE LOOKS AT THE COMMITTEE ON FOODS

Foods is described as a roasted blend of bran, wheat, molasses and malted wheat flour, furnishing 3.5 calories per gram. It does not contain any stimulating ingredient, and it is suitable for preparation of a table beverage with water or milk, the latter being particularly desirable for children. The beverage is available in two forms; one must be boiled, and the other may be dissolved instantly in hot liquid. Do not make the mistake of preparing this beverage so weak that it is lacking in flavor. It is equally suitable served as a cold drink garnished with whipped cream.

An accepted brand of chicory tablets is suitable for addition to coffee beverage. These tablets are prepared from roasted chicory root which is ground and pressed into tablets. Chicory is said to improve the quality of the coffee especially when it must be held in urns over a period of time, as in hotels or restaurants. It gives the beverage a full flavor and brown color. Roasted chicory is added to coffee to "improve its body." Sollman in his book "A Manual of Pharmacology" states the following with regard to chicory:

"Chicory.—The roasted root of this plant is used as an adulterant and substitute for coffee. It probably contains similar empyreumatic substances, but no caffeine. Schmiedeberg, 1912, considers it a harmless stimulant, stomachic and antiseptic; while Horwith, 1918, believes it liable to disturb digestion."

Coffee flavor is very appealing in desserts because of its slight bitterness, which counteracts the cloying sweetness of sugar alone. It is good with bland flavors such as milk, eggs, tapioca, corn starch and gelatin. Gelatin desserts include coffee jelly, which is particularly effective served with whipped cream. Coffee Bavarian cream, coffee soufflé and charlotte russe, floating island and tapioca pudding as well as the filling for cream puffs and eclairs are splendid when flavored with coffee made double strength by the French drip method. A vanilla sauce to be served either hot or cold with cake or pudding may be flavored with strong coffee. Frosting and filling for cake is delicious with strong coffee furnishing both color and flavor. Flavors that combine particularly well with coffee are vanilla, chocolate and cinnamon. The familiar coffee cake may be made of a yeast bread foundation or a quick bread. Coffee as a beverage may be varied to suit the individual taste. For café au lait, make coffee of twice the usual strength, by any method desired, and have ready a pot of hot milk. Hold the pot of coffee in one hand, and pour simultaneously with the milk in the other hand into the coffee cups, using an equal amount of coffee and milk. For demi-tasse, make double strength coffee and serve after dinner in small cups. For iced coffee, prepare the beverage double strength and pour over cracked ice. Instead of using the hot coffee poured on ice, one may prepare dripped coffee of ordinary strength and allow it to cool in a covered container, become chilled and let it be served in tall frosted glasses topped with spoonfuls of whipped cream.

Coffee for forty persons is prepared as follows: Put 1 pound of ground coffee in a muslin bag that is large enough to hold twice the amount. Drop the bag into a large kettle containing 2 gallons of boiling water. Cover tightly, reduce heat, and let the coffee stand about ten minutes. Remove the bag, and keep the coffee hot for service.

It is important that the home maker should look for the Seal of Acceptance on the coffee, decaffeinated coffee or cereal beverage that she purchases for her family. The presence of the Seal denotes that the Committee on Foods of the American Medical Association has carefully reviewed all advertising material and found that it is in alinement with facts furnished by the company. The Seal has further significance in assuring the purchaser that the product complies with the Food and Drugs Act.

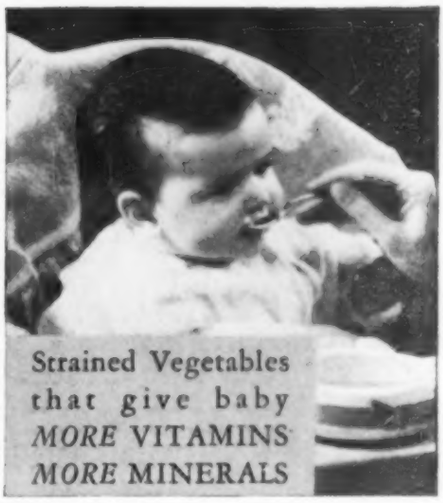
[NOTE.—In the May issue, Mrs. McCray will discuss infants' foods. Lists of the accepted foods discussed each month will be sent on receipt of 6 cents in stamps.]

WHO AM I?

Life is a misery without me.
I am the secret of happiness.
Without me the years are a menace, old age a tragedy.
I offer myself to you and you do not heed.
I bide my time, tomorrow you will come begging. I shall turn aside.
I hold your future in the hollow of my hand.
I can make of you what I will.
I am the most important thing in the world, without which all else is impossible.

I AM GOOD HEALTH.

—*Monthly Bulletin*, Indiana Division of Public Health.



When your doctor says, "Strained vegetables for Baby," he isn't thinking in terms of spinach, carrots or tomatoes. He's prescribing *vitamins* and *minerals*. Gerber's Strained Vegetables insure them in a higher degree than is possible in home preparation.

Vegetables lose *vitamins* fast, after picking—again in open saucepan cooking. *Minerals* are lost when water is poured off. Gerber safeguards vitamins and minerals—by using specially grown vegetables—rushing them from garden to can—by cooking with air excluded—by moisture regulation that retains more mineral salts.

Different . . . and Better

Gerber's Strained Vegetables are not like ordinary *seasoned* canned vegetables, strained down and resealed in baby-size cans. They are put through special scientific processes . . . strained five times finer than kitchen sieves strain . . . steam-cooked in sealed cans by Gerber's exclusive Shaker-Cooker process that preserves fresh flavors, cooks every particle uniformly . . . and left unseasoned, so that you can use them as they are, or season them as taste or your doctor directs.

They save you hours of work. They give Baby uniform vegetables, summer or winter—with extra vitamins and minerals. That's why doctors recommend them.

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When you go shopping look for the Gerber complete line. It means "Baby Headquarters."

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Ask Your Doctor

Gerber's

9 Strained Foods for Baby

Hy-4b

Mothers! Here's help for you, if "Baby won't eat." Scientific information . . . practical suggestions . . . telling how to establish wholesome, normal eating habits. FREE booklet. Send for it.

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Please send me free copy of "Mealtime Psychology," by Dr. Lillian B. Storms. (Enclose 10c if you would like a picture of the Gerber Baby, ready for framing.)

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Davidson Rubber Company
Est. 1857 Boston, Mass.

SCHOOL AND HEALTH

(Continued from page 366)

NEW HEALTH BOOKS for teachers and pupils

HOME ROOM GUIDANCE

By Harry C. McKown. Price, $3. Pp. 447. New York: McGraw Hill Book Company, 1934.

ONE of the reasons why America is one of the most interesting places in the world educationally is because it is free for experimentation. Federal and state educational authorities have almost nothing to do with the details of school management and teaching. Initiative in education is in the hands of local authorities. The unity in American education is the result of the same evaluation of educational experience. American schools, therefore, are refreshing in their experimentation.

One of the most successful experiments in American education was specialization in junior high schools. It raised the standard of teaching and insured a greater interest on the part of pupils. This advancement was accompanied by one extremely serious loss. Although the pupil profited from specialized teachers, he lost the more intimate contact with his teachers. Each teacher was responsible for his progress in a particular subject, but no teacher except by chance knew him as an individual or was interested in him. The system fostered the teacher's interest in subjects rather than in children.

This weakness in special teaching had to be met by another experiment, home room guidance. The home room teacher has only about one-fifth as many pupils as there are in her teaching group. There are no formal lessons. The home room teacher has an opportunity to know these boys and girls rather intimately, to understand their strong points and weaknesses and to advise them accordingly. The home room is a typical community where the members participate in solving problems of the group.

Mr. McKown has written a challenging book within certain limitations. He has a chapter on "Health Guidance" in which he points out that the home room teacher has the chance to schedule activities such as health week, safety week and first aid week. This chapter is quite unsatisfactory because of its vagueness and lack of appreciation of the many other opportunities the home room teacher has in understanding the mental and physical problems of children and guiding them sympathetically. All high school teachers should find this a stimulating book, but they will be obliged to rely on their own creative power rather than on that of the author for details of health guidance. The opening chapter of the book, "A Changing Conception of Education," in which the author introduces the problem of home room guidance, is a masterpiece.

THE CHALLENGE OF LEISURE

By Arthur Newton Pack. Price, $2. Pp. 244. New York: The Macmillan Company, 1934.

THE INCREASE in the number of articles on leisure appearing in current magazines and the new books on the same subject are indicative that leisure confronts the nation and also that the American people and our schools have accepted the challenge.

Cultivated leisure is difficult for Americans to understand and appreciate. Our past rebels against it. America has been a leisureless nation. Our ancestors on the frontier were too busy conquering the wilderness and fighting savage animals and men to court leisure. We are naturally restless and find satisfaction in intense action rather than in reflective recreation.

The time has now come when we need to reestimate life's values and recast our purposes in terms of a changing environment. The author attempts to do this and to suggest definite forms of recreation.

EDUCATIONAL PSYCHOLOGY

By Harlan C. Hines, Ph.D., with a foreword by William Fletcher Russell. Price, $2.20. Pp. 381. New York: D. Van Nostrand Company, Inc., 1934.

SINCE many books are strong in theory but weak in their applications to life, this volume on educational psychology, which does not omit theory but focuses directly on teachers' problems, will be welcomed by teachers. Chapter II on "The Building of Habits" is a condensation of the practical psychology of habit.

PHYSICAL EDUCATION CONVENTION

The national convention of the American Physical Education Association and its Eastern District Society will be held in Pittsburgh, April 24-27, 1935.

STRESS EARLY DIAGNOSIS IN TUBERCULOSIS CONTROL CAMPAIGN

"Fight tuberculosis with modern weapons" is the slogan for the 1935 educational campaign sponsored by the National Tuberculosis Association, the Chicago Tuberculosis Institute and other associations throughout the country. The campaign is scheduled to begin April 1.

"The treatment of tuberculosis must in all cases be based on diagnosis. Only a doctor can decide whether treatment is necessary, and how it should be carried out." This is the underlying principle and statement that will be featured in all literature to be distributed by antituberculosis workers during this month. The campaign will also emphasize the importance of early diagnosis, so necessary in the cure or arrest of the disease.

Medical science has made tremendous strides in the cure and prevention of tuberculosis. Physicians today recognize the importance of the sanatorium and the necessity for social rehabilitation of the tuberculous patient. This is a basis for the slogan of this year's campaign.

An appreciation of scientific medicine is a major objective of health education, and this modern treatment of tuberculosis inspires respect not only for scientific medicine but also for the men and women associated with its advancement. Such full, definite knowledge of the treatment of tuberculosis dispels fear of the disease and prompts the person who may be worried about his health to visit his physician.

Tuberculosis, through the ages, has been surrounded by many deep rooted fallacies, but in the last fifty years much has been done to discredit these notions. Such educational campaigns as the one under discussion have done a great deal in further enlightening the public on the subtleties of the disease and the importance of scientific medical practice.

Campaign posters are being distributed. They suggest that medical science is a moving, living enterprise in step with the times. Leaflets are available which explain concisely and authoritatively the main aspects of the treatment of tuberculosis, including general treatment, need and purpose of the sanatoriums, collapse therapy and economic and social rehabilitation.

We spend six times as much for funerals and tombstones each year as we appropriate for public health service.—*James M. Parrot.*

THIS MOTHER . . . knows how

Yes, this mother has solved the milk feeding problem. And you can, too! If your children tire of milk with every meal—or if some of your children do not take readily to the flavor of milk—ask the Krim-Ko Dairy in your town to deliver Krim-Ko Chocolate Flavored Drink as a supplement to your milk requirements.

Krim-Ko has the food energy value of standard milk. It is not heavy and gagging. It is rich in bone and tooth-building calcium. It can be served hot or cold, with meals or between meals. Costs less than self-mixed drinks. Best of all—Krim-Ko has that TRUE delicious chocolate flavor that everybody loves.

ACCEPTED AMERICAN MEDICAL ASSN. Correspondence on Foods

If there is not a Krim-Ko dairy in your town, write to the Krim-Ko Company, 4830 S. Turner Avenue, Chicago, Illinois, and give us the name of your milk dealer.

Krim-Ko is chocolate flavored, sweetened, partially defatted milk (Added tapioca—salt).

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NOSTRUMS AND QUACKERY

Many So-Called "Cures" and "Treatments" Are Described in These Pamphlets Published by the American Medical Association

PATENT MEDICINES
A reprint of articles by Dr. Arthur J. Cramp, discussing the general relation of the "patent medicine" evil to the public health. **Illustrated. 15 cents.**

CANCER "CURES" and "TREATMENTS"
Deals with a miscellaneous assortment of "cures" and "treatments" for cancer. **Illustrated. 15 cents.**

OBESITY "CURES"
Describes some of the systems sold on the mail order plan, as well as a number of preparations purchasable at the drug stores. **Illustrated. 15 cents.**

FEMALE WEAKNESS "CURES"
Deals with mail order concerns that "specialize" in "women's diseases," and widely-advertised nostrums sold for "female weakness." **Illustrated. 15 cents.**

CONSUMPTION "CURES," etc.
Discusses preparations sold for the alleged cure of tuberculosis, as well as a number of so-called cough remedies. **Illustrated. 15 cents.**

DEAFNESS "CURES" and "TREATMENTS"
In this pamphlet several widely-advertised concerns and products are exposed. **Illustrated. 15 cents.**

MINERAL WATERS
Mineral waters, as well as patent medicines, may be sold under deceptive claims. A number of such products are described in this pamphlet. **Illustrated. 10 cents.**

MISCELLANEOUS NOSTRUMS
Presents information concerning more than 400 worthless or dangerous preparations which are sold under false or misleading claims. **Illustrated. 30 cents.**

MISCELLANEOUS SPECIALISTS
Some self-styled specialists, itinerant and otherwise, form the subject matter of this pamphlet. **Illustrated. 20 cents.**

KIDNEY DISEASE AND DIABETES
Nostrums sold for the alleged cure of diabetes are grouped and discussed with those sold for Bright's disease. **Illustrated. 15 cents.**

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Aviators were listed as having one of the highest death rates, while college professors and college presidents enjoy the greatest longevity.

The highest death rate from all causes, for working men from 15 to 64 years of age, was found among hostlers and stable hands, with a rate of 36.22 deaths for each thousand employed, while the death rate for the garage laborer, successor to the stableman, was 6.05. Other death rates included physicians and surgeons 10.69, cemetery keepers 6.50, teachers 4.42, social service workers 2.75, guards and doormen 20.25, general public service laborers 7.15, and garbagemen 11.39. Laborers in a soap factory rate 3.29, while inventors index at 17.65. Managers of real estate companies were low at 5.64, while their agents were rated at 10.09. Telegraph operators had an index of 10.09 and telephone operators 4.59.

Suicides, according to the report, occur less frequently among professional men than among unskilled workmen. Tuberculosis takes its greatest toll among unskilled workers, whose rate is double the average for all workers; the rate for skilled workers is a little under the average, while professional men have a rate less than one third of the average. Among persons past the age of 45, heart disease claims more than the average of professional men; but the rate for agricultural workers is only half the average, and unskilled workers again seem to get the worst of it from heart disease, with the highest rate, for both the 25 to 44 and the 45 to 64 year age groups. Some of the other diseases listed as taking a relatively high death toll include cancer and other malignant tumors, nephritis, cerebral hemorrhage, diabetes and cirrhosis of the liver; accidents are also listed.

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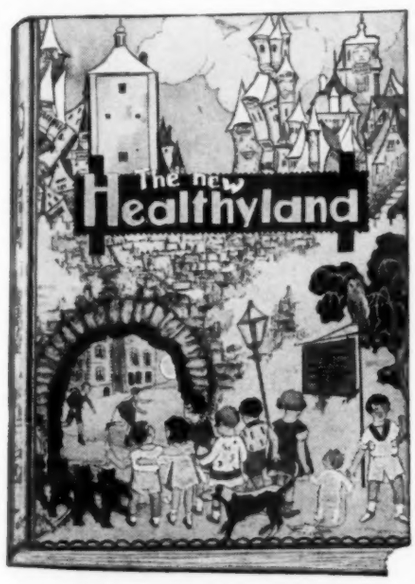

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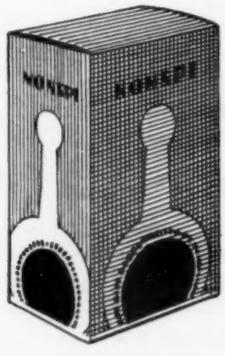

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